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Ferries sail today as strike ends

The strike at all Sealink ports in Britain except Newhaven was called off after settlement was reached in the dispute over jobs cuts. The 1,100 members of the Merchant Navy and Airline Officers' Association agreed unanimously to end the dispute and resume normal working. Ferry sailings are expected to resume today.

Bid for ACC by a Court

Australian financier Mr Robert Holmes a'Court last night told the Independent Broadcasting Authority the terms of a full take-over bid for Lord Grade's Associated Communications Corporation. His bid, which would ask shareholders to sell their shares to him, is the main obstacle to the takeover—likely to be approved.

Jet crashes on Washington bridge in rush hour

By Our Foreign Staff

An Air Florida Boeing 737 airliner with 68 passengers and five crew crashed into a bridge in central Washington yesterday, ripping into cars stuck in jams caused by a snowstorm.

The airliner had just taken off for Tampa, Florida, from Washington National Airport. Witnesses reported bodies on the bridge and survivors in the icy Potomac below. Immediate reports spoke of six bodies recovered from the river and seven survivors.

Fire service and police officials said the bridge was crowded because the Government had allowed workers to go home early because of the snowstorm.

United States park police said water rescue operations started soon after the crash, with police helicopters dropping lines into the river to try to rescue passengers. The 14th Street bridge is not far from the White House and the 555th high Washington monument.

Mr David Hess, a spokesman for the Federal Aviation Administration (FAA) said just after the crash, which occurred at 4 pm local time: "One of our people who saw the accident said he saw the plane nick the south side of the bridge, spin over it and go into the Potomac river on the north side of the bridge."

The Washington fire department launched rescue boats and at least one reached the scene within minutes. "I've heard reports that there were some survivors but that is sketchy information that's not substantiated," he said. Boeing 737s can carry up to 128 passengers.

People were reported clinging to the wreckage of the aircraft in the river and to sections of the bridge. Witnesses said they had seen people inside half a dozen smashed cars and an

overturned lorry which had been crossing the bridge.

A spokeswoman for George Washington University Hospital said it was waiting for survivors but did not know how many to expect.

There has not been a major aircraft accident within the Washington limits in years. National Airport said the aircraft was Air Florida flight 35 from National to White Plains, New York. Later an Air Florida spokesman said the aircraft was bound for Tampa and Fort Lauderdale in Florida.

Fire engines and ambulances threaded their way through streets clogged with snowbound traffic towards the scene about half a mile from the White House.

The Boeing 737 is a two-engined aircraft. Helicopters hovered over the scene dangling loops for rescuers to grab; but the freezing conditions were making it exceedingly difficult for the survivors to keep their grip. A witness reported seeing one man having grabbed a loop fall back into the Potomac. Rescue attempts were being made from the space between two spans.

On New Year's Day, the FAA said that the United States' main airlines had logged 26 consecutive months without a fatal accident. The last fatal crash involving a major carrier happened on October 31, 1979, when a Western Airline DC10 crashed in Mexico City.

Under Government regulations, aircraft have to take off and land in a flight path over the river and are not allowed over Washington and its heavily-populated suburbs. There have long been fears of an accident of this nature because the airport is so close to the city centre.

Gormley urges miners to vote for pay peace

By Paul Routledge, Labour Editor

Mr Joe Gormley, the outgoing president of the National Union of Mineworkers, yesterday triggered off a bitter political row by insisting that pitmen should defy their executive and vote for a 9.5 per cent pay offer rather than a strike.

Mr Gormley counselled against a stoppage because miners would lose wages and the expansion Plan for Coal could be jeopardized. Miners began voting in secret today on a request from their executive to mount a strike if "necessary". They are asked: "Do you support your national executive and vote for a cross in a 'yes' or 'no' box? The NCB offer is down the back of the ballot paper."

Mr Gormley said: "I would have thought the offer was acceptable. I have not changed my view since the executive recommended it. He added that his words amounted to an implicit appeal to miners to vote 'no' in response to the NUM executive's unanimous request for authority to strike, if necessary, to drive up the National Coal Board's final £102m pay offer." Sir Derek Ezra, NCB chairman said they would be unable to offer more even if faced with a strike.

Mr Gormley's advice brought forth a storm of protest from the left in the union. Mr Michael McGahey, Community vice-president and leader of the Scottish pitmen, described the eve-of-poll appeal as "outrageous" adding: "It is unprecedented in the history

of any union for the president to come out against the policy of the union in the middle of a bitter political row by insisting that pitmen should defy their executive and vote for a 9.5 per cent pay offer rather than a strike."

Mr Arthur Scargill, the NUM president-elect, said: "We require a minimum 15 per cent increase. I am both surprised and saddened. The statement is all the more regrettable because it is a violation of a unanimous annual and special conference decision."

Mr Gormley's comments yesterday followed a signed article in the Daily Express, in which he said: "There is not much likelihood of a strike producing more than a few more quid in my judgment. And I am not too sure that a lot of miners will be willing to give up earnings well in excess of £100 a week to strike for that little improvement."

"The left wing are claiming

that they played any part in the imposition of martial law in Poland or put pressure on the Polish leadership to take the steps it did.

An angry official response to the recent Nato session on Poland, issued by Tass, said the measures were decided and carried out by Poland alone. And it accused the United States and its allies of trying to dictate to the Poles how to organize their affairs while continuing to encourage anti-socialist forces in the country.

Tass called the Nato statement a "disgraceful farce" initiated by the American Administration. Its style was characterized by the "impulsive

and short-sighted

distortion of facts, the high-handed tones and excessive political ambitions". The agency asked what right the Americans and their allies had to speak about Poland while they stifled attempts by people in Chile, the Dominican Republic and El Salvador to destroy their economy and encourage Israeli aggression.

Tass said the Nato members were enraged that the danger of imminent civil war and national catastrophe had been averted in Poland. But Washington was still trying to encourage violations of the law and the overthrow of the system there, using intelligence services, instigatory radio broadcasts and special radio instructions.

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A distressed Mrs Thatcher at the Imperial Hotel yesterday.

Thatcher weeps for son

By Staff Reporters

The Prime Minister broke down and wept yesterday as she awaited news of her son, Mark, who has been missing in the Sahara Desert since Friday.

Last night the Queen sent her a private message of concern as Mr Denis Thatcher flew to Algeria to join the search.

As Mr Thatcher arrived in Algiers, he was told of a possible sighting. Algerian authorities said a man answering his son's description crossed the frontier into Mali at a remote spot called Irribarbar. There were also unconfirmed sightings of Mr Thatcher's co-driver, Miss Charlotte Verney, and a mechanic. The search was called off until daylight.

Mrs Thatcher, who said she was very concerned, wept in the foyer of a London hotel while on her way to an engagement. Her aides gathered round her and she leaned against one of them, trying to compose herself.

She moved towards a line of officials from the National Federation of Self Employed and Small Businessmen but she had to pause and steady herself when emotion appeared to overcome her.

Red-eyed and looking strained, Mrs Thatcher flew to the owner of a handbag boutique in the Imperial Hotel in Russell Square, Mrs Lorraine Goldstein, said afterwards: "She stumbled a bit and was crying. Then she composed herself and said she would be

all right. I did feel very sorry for her."

Mrs Thatcher clearly distanced herself from the news: "I am sorry there is no news. I am very concerned."

Mrs Thatcher later cancelled a tea-time appointment with the Hungarian Foreign Minister because of her concern, and returned to her private rooms in Downing Street.

Mr Denis Thatcher was meanwhile on his way to North Africa in a private aircraft piloted by Sir Hector Laing, a friend of the Prime Minister.

A Downing Street statement said every effort was being made to establish where Mr Thatcher was and the Government was in touch with the British embassies in Dakar, Algiers, and Paris.

The French Government sent three military planes into the desert yesterday to join in the search and President Mitterrand expressed his sympathy to Mrs Thatcher.

Profile, page 3

Government to block Royal Bank takeover

By Peter Wilson-Sophie, Banking Correspondent

The Government looks certain to block both takeover bids for the Royal Bank of Scotland in line with the recommendations of the Monopolies and Mergers Commission.

Mr John Biffen, Secretary of State for Trade, is understood to have advised the Prime Minister he had decided that it is not possible for the Government to overrule the Commission.

The Government's decision is due to be announced tomorrow. This news knocked several pence off Royal Bank's shares. After rising to 1520 earlier in the day, they fell back to close unchanged at 1440.

It's still 49p lower than last Friday's price before newspaper reports first suggested that the Monopolies Commission, which has investigated the two £300m takeovers from Standard Chartered

and Hongkong and Shanghai Banking Corporation, had recommended against both.

The Monopolies Commission report has been circulated to the Bank of England and to Whitehall, and the issue may be discussed at today's meeting of the Cabinet. However, Mr Biffen and the Prime Minister are thought to have felt that their hand has been forced by the leaking of the report and the fact that there is no precedent for the Government overturning a Monopolies Commission recommendation on a merger.

Under the 1973 Fair Trading Act, Mr Biffen does have the power to overturn a negative ruling by the Commission. But although last month the Government took the unusual step of rejecting a recommendation on credit cards, it has not in the past rejected the Commission's recommendations.

Leading article, page 11

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**NEWS IN
SUMMARY**
**Death in
snow: PCs
suspended**

Two police constables have been suspended from duty over the death of a man, 26, whose body was found buried in deep snow in the outskirts of the city (Our Edinburgh Correspondent writes).

The body of Mr Tony Wilson, 26, was found eight days after he was last seen at his Edinburgh home. It is alleged that he was driven from his home in a police car and released on a lonely road in the city's outskirts in freezing conditions.

Lothian and Borders Police said the officers had been suspended pending the outcome of the inquiry. A report will be submitted to the Procurator Fiscal.

Ministers help in air-fares fight

The Government is to support the argument at the European Court of Justice by Lord Beecham, Conservative European MP for London, North-West, that certain aspects of the present arrangements for fixing European air fares are against EEC competition rules (Robert Jones writes).

The notification that the Treasury Solicitor wishes to argue up to the European court that Britain is prepared to fight in the court over cheaper fares and fewer restrictions on European air traffic Lord Beecham will meet Evans Andriessen, the responsible EEC commissioner, today.

Food firms' plea over CAP

The Food Manufacturers' Federation yesterday renewed its call for changes in the EEC's common agricultural policy, to make it more responsive to the realities of supply and demand (John Young writes).

It comes on the eve of the annual round of negotiations on farm price increases. The European Commission is expected to make its recommendations tomorrow or on Monday.

Colleges face cash cuts

High-spending polytechnics and colleges are to get far less money under the Government's new system of funding higher education outside the universities (Diana Geddes writes).

The Government is expected to announce on Monday the distribution of the higher education pool, which for some institutions will involve a 16 per cent cut in real terms compared with 1980-81.

Political levy tops £100,000

More than £100,000 has been raised towards the £250,000 target of a union-controlled levy fund set up last September to aid the Labour Party between now and the next general election; it became known yesterday after a meeting of Trade Unions for a Labour Victory (TULV) (Our Labour Correspondent writes):

'Sunday Times' staff changes

The Sunday Times announced yesterday that Mr Brian MacArthur, executive editor (news) of The Sunday Times, has been appointed joint deputy editor of The Sunday Times, with effect from next week. He will replace Mr Ronald Hill and will edit the paper in the absence of the editor, Mr Frank Giles. Mr Hall, who is also editor of The Sunday Times Colour Magazine, is relinquishing his post to take up other duties with Times Newspapers Ltd.

Mr Giles said last night that there had been a shake-up in top editorial positions, with a view to strengthening the paper "as a broadsheet circulation, along with that of other quality Sundays, is falling and the company is in serious financial trouble". He said:

"The Sunday Times was selling about 1,250,000 copies at present, which was 6 per cent lower than a year ago, compared with a drop of nearly 9 per cent for The Observer and 12 per cent for The Sunday Telegraph.

Civil court fees increase is considered

By Anthony Bevins, Political Correspondent

Substantial increases in the higher judiciary were met from the Consolidated Fund so as to emphasize the independence of the judiciary from the executive, and it therefore appeared inappropriate to include them in a departmental account.

Mr Gordon Downey, the Comptroller, and Andrew General, has informed the Commons Committee of Public Accounts that the arrangements for setting fees exclude many of the costs of civil proceedings. He reports that a "substantial subsidy" is involved and adds that "the Treasury do not appear to have been fully aware of the extent of the costs given to civil litigants."

The fees, which are now to be exacted by officials and ministers, include charges made for probationary arrangements for fixing European air fares are against EEC competition rules (Robert Jones writes).

The notification that the Treasury Solicitor wishes to argue up to the European court that Britain is prepared to fight in the court over cheaper fares and fewer restrictions on European air traffic Lord Beecham will meet Evans Andriessen, the responsible EEC commissioner, today.

An unpublished account drawn up by the Lord Chancellor's Department for 1980-81 showed that fees and other income from civil business brought in £68.5m, with a deficit amounting to an estimated £22m. Estimated receipts for the current year were put at £74m.

The Lord Chancellor's Department told Mr Downey that the salaries and pensions of Circuit Judges and the

Plot to kill Thatcher is denied

A teenager denied at the Central Criminal Court yesterday that he intended to kill the Prime Minister when he broke through Parliament's tight security armed with a knife.

Nigel Eastmond, aged 18, of Queen's Drive, Finsbury Park north London, has denied threatening to kill Mrs Thatcher at all. Mr Eastmond said in evidence: "Taking things on a political basis maybe I may have, but personally no."

Mr Eastmond, aged 18, of Queen's Drive, Finsbury Park north London, has denied threatening to kill Mrs Thatcher, and that he scaled a fence into Black Rod's garden, brandishing a kitchen knife, shouting: "I'm going to kill Margaret Thatcher."

Yesterday Mr Eastmond said he had gone to 10 Downing Street "to make a protest to reflect what I wanted to bring to the attention to myself."

Mr Eastmond denied that he had taken the knife from his mother's kitchen intending to kill it. Maybe I would stab myself with it, but I am not a violent person. I do not think I could stab myself or anyone else," he said.

He said that when he arrived at Downing Street he was trying to think what to do. "Then I walked to Westminster, still with no clear ideas of what I might be doing," he said.

Mr Eastmond said that he returned to Downing Street and when a policeman told him Mrs Thatcher would be going to the Commons soon, he decided to make a protest when she came out.

But when he saw a convoy of cars he thought he was too late. "Then I thought I could break into the Palace of Westminster and do some protest inside and try to get some attention to myself."

The case continues today.

Gowrie dual citizenship hint uproar

From Richard Ford Belfast

The Government faced strong criticism last night from Unionist politicians in Ulster over comments made by Lord Gowrie, Minister of State at the Northern Ireland Office, concerning the political and economic problems of the province, particularly the question of dual nationality with Europe.

In a wide-ranging interview, Lord Gowrie made clear that despite pressure and criticism from politicians in the North, the Government had set its face, "like flint", against dropping cooperation with the republic.

The minister, a southern Protestant, brought up in Donegal, also suggested that he would like to see dual citizenship with people in the North who regarded themselves as Irish being administered by Ireland and Britain.

His comments were immediately denounced by both parties who represent "loyalists" in Ulster, with a spokesman for the Official Unionists calling them "damnable".

A statement from the Rev Ian Paisley's Democratic Unionist Party attacked Lord Gowrie's comments as a brazen declaration.

It called on all Ulstermen to defend their heritage from a government-planned destruction and added: "The minister speaks of flint determination, but he will experience the real meaning of that term if he dares to try and push Ulster down the road he plans."

The prosecution alleged he set out on a personal mission to tell Mrs Thatcher, and that he scaled a fence into Black Rod's garden, brandishing a kitchen knife, shouting: "I'm going to kill Margaret Thatcher."

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CASH DELAY 'AFFECTS CHILDREN'

By Nicholas Timmins

The National Society for the Prevention of Cruelty to Children, which is in a serious financial crisis, said last night that it was disappointed that the Government had still to decide whether to give it financial support.

After meeting Lord Elton, Under-Secretary of State for the Department of Health and Social Security, society officials said that he had asked for more time to consider the matter.

The Government had, however, known of the society's financial position since last July, the society said. In 1980 the society had a deficit of £224,000. Lord Elton, who is said to have listened sympathetically to the society's case, is to visit the society's office in Haringey, London, today.

Dr Alan Gilneur, the society's director, said: "We hope it will convince him of our urgent financial needs. If it does not it will be extremely bad news for many children."

Acclaim driver wins top award for outstanding economy drive.

Despite the challenge of many smaller engined cars, the Acclaim won outright, with remarkable consumption figures of 75 mpg overall.

Triumph are especially proud to have won the Run against Heavy overheads competition. The Acclaim's performance confirms BL Cars' tradition for exceptional fuel economy.

BL Fighting back

The letter to Mrs Margaret

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Alliance in harmony for local election seats

By Ian Bradley

The first joint list of SDP/Liberal candidates who will carry the alliance banner into the London borough elections in May are to be announced today.

The 50 seats on Hammersmith and Fulham Council will be contested by 26 Social Democrats and 24 Liberals. It will be the first time for more than fifty years that there has been a three-cornered fight in all the seats in the borough.

A survey carried out by *The Times* in the last few days shows that, in contrast to the difficulties over sharing out parliamentary seats, negotiations between the two parties in the alliance on this summer's local government elections are generally going well.

Agreements have been reached on the division of seats in about 85 per cent of the six metropolitan and 103 non-metropolitan district councils, where there will be elections in May.

Of the 32 London boroughs, there are firm agreements between the Liberals and SDP in 15, and negotiations are nearly complete in eight.

There are only three areas of conflict in the capital: Richmond, where the Liberals believe they can win nearly every seat and are reluctant to concede more than a few to the SDP; Hackney, where negotiations got off to a sticky start and there is argument over who should fight in Shoreditch; and Harrow, where there is a serious possibility that there will not be any agreement.

The SDP has high hopes of retaining its control of Islington. The alliance is also looking for victory in Lambeth, where there will be 43 SDP and 21 Liberal candidates, Camden, Hammersmith and Fulham, and Sutton.

In most places seats have been divided between the two parties on a roughly equal basis. In Manchester, where the whole metropolitan district council comes up for reelection in May, the share is exactly half.

The Birmingham Metropolitan District Council election will be contested by 59 Liberals and 58 Social Democrats. In Sheffield, where only a third of the council comes up for reelection, the division will be 15 Liberals or Liberal MPs.

Among the non-metropolitan districts, the only difficult area known to the Association of Liberal Councillors are Wyre Forest (Kidderminster) and Cambridge.

Mr Ian Wright, southern region organizer for the SDP says: "I have yet to receive a phone call from any local party saying that they are likely to put up candidates against the Liberals".

Both party organizations are impressed at how well the local election negotiations have gone. Mr Wright puts it down partly to the pressure of time imposed by the May deadline, which has concentrated minds in a way that has not happened with the much more delicate parliamentary negotiations.

Mr Tony Greaves, secretary of the Association of Liberal Councillors, feels that the success of the local government negotiations is due to the fact that they were left to local people, with a minimum of interference from on high. "Where there have been difficulties, it has nearly always been because the central party office or an MP has intervened", he says. "I feel that is a lesson that the parliamentary negotiators should learn."

Mr Greaves says that in most places the SDP have been happy to let Liberals fight those wards in which they have built up a campaigning strength over a long period.

Surrey agreement

The two parties also announced yesterday that they have reached agreement on the sharing of parliamentary seats in Surrey.

The SDP will fight four (Chertsey and Walton, Guildford, Reigate, and Spelthorne) and the Liberals seven (Dorking, Epsom and Ewell, Esher, Merton, Surrey East, Surrey North West, and Woking). All 11 seats in the county are at present held by Conservatives.

Although the Liberals have gained a numerical superiority, it is at the expense of giving up to the SDP the seat they are most likely to win in the country. Chertsey and Walton is the twenty-ninth Liberal seat in Britain with prime winning prospects on the basis of the 1979 general election figures.



A touch of spring: Mrs Juliet May and Miss Jill Diamond of St Mary's, Isles of Scilly, with armfuls of flowers destined to add a splash of colour to snow-white mainland Britain.

Lord George-Brown is banned

Lord George-Brown, the former Secretary of State for Foreign Affairs and Labour MP for Belper, was banned from driving for three years and fined £200 at Hailsham Magistrates' Court, Sussex, yesterday, when he admitted driving with excess alcohol in his blood.

Lord George-Brown, aged 67, was nearly two and a half times over the legal maximum, with a blood alcohol reading of 193mg, the court was told. He had been convicted of a similar offence in September, 1973.

Mr Thomas Lavelle, for the prosecution, said two police officers saw Lord George-Brown driving an erratic course in his Singer Gazelle car at Pollegate after making a purchase in a shop. Mr Lavelle said: "He was quite courteous to the police and gave them no difficulty at all."

Mr Lavelle said Lord

George-Brown told the officers he had drunk a half bottle of wine about half an hour before on the train from London. A breath test proved positive and a blood sample when tested gave a reading of 193.

Mr Christopher Stredder, representing Lord George-Brown, said: "He wishes me to say he profoundly regrets that after such a distinguished career in public service behind him he now has to plead guilty to this offence."

At the time of the recent offence both Lord George-Brown's mother and wife had suffered heart attacks and were very ill. He came down under extreme pressure to spend the weekend at his country cottage. He had drunk too much, he freely admits.

Dr Timothy Brendan, Shell's director of explorations, under cross-examination gave an assurance that there was no present pro-

tection.

Mr Philip Nelson, head of Shell's Land and Western Off-Shore Exploration and Production, estimated that about 20-40 per cent of oil is recoverable.

Shell admitted that whatever the result of the exploration, the Lyndhurst structure was unlikely to have

production figures more than one sixth of the Wytch Farm on-shore field, in Dorset.

stage he came perilously close to colliding with a parked car. A little later he clipped a bank on his side of the road."

Mr Lavelle said the police decided not to stop Lord George-Brown because of the heavy rain and high winds.

But he stopped shortly afterwards when he turned into Willingdon Lane, Jevington, near his cottage.

Mr Lavelle said there was a slight trickle of blood from Lord George-Brown's nose and damage to the front near side of his car from a recent impact. "The defendant said he had clipped a lamp-post in Pylegate after making a purchase in a shop," Mr Lavelle said. "He was quite courteous to the police and gave them no difficulty at all."

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Channel Four 'boon to programmes market'

By Kenneth Gossling

Channel Four had done a valuable job in creating a more independent market in television programmes, a BBC executive said yesterday.

The Comptroller also reported that the Ministry has agreed to pay the private consultants a familiarisation fee of up to £1,250,000 to compensate them for taking a design work completed by the old subunits.

But the most important portion of this year's £10m loss is explained by a Whitehall study which concluded "that although there was no significant difference in the efficiency of performance, it cost more to employ consulting engineers than viable subunits".

On the Ministry's own figures, the extra costs could be as high as £4.7m in the current year, with a similar "penalty" next year, which would "probably" diminish in future years.

A review of the work of the subunits was launched in 1979 because cutbacks in the road building programmes undoubtedly made the subunits less efficient.

He announced that the channel would easily fulfil its task of taking not less than 10 hours a week from the independent sector and said it was his judgment that they would take not 500 but 750 hours of programmes a year from that sector.

Mr Laughton, whose department deals with three specialist areas, rock and pop music, film and television, was announcing programme plans for the coming year.

The success of the independent sector has already received favourable comment this week from Mr Jeremy Isaacs, chief executive of Channel Four.

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Change to private firms to cost taxpayer £10m

By Anthony Bevins, Political Correspondent

A ministerial decision to hive off the administration of road construction work to private consultants will cost the taxpayer up to £10m in the current financial year.

The hidden costs of the denationalisation move, with continuing losses in future years, has been revealed in a report written by Mr Gordon Downey, the Comptroller and Auditor General. He says that responsibility for £2,000m of road contracts, organized by the Ministry of Transport, has been transferred to 15 consultant engineering firms "despite the extra costs involved".

The report, which will be considered by the Commons Committee of Public Accounts, shows that an estimated £4m will be paid out in redundancy money to about 1,700 staff. Mr Downey tells MPs: "Since many of the staff had been re-employed by consulting engineers, on similar duties and often in the same location, I asked the department what steps they had taken to reduce the incidence of redundancy payments in such cases."

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French Cabinet cuts working week and extends holidays

From Claude Hargrove, Paris, Jan 13

The Cabinet today approved decrees reducing the statutory working week by one hour to 39 hours, extending annual holidays from four to five weeks and exempting from social security contributions firms further shortening the working week.

The two decrees were adopted under the framework Bill voted by the National Assembly at the end of last year which enables the Government to promulgate social reforms without recourse to parliamentary approval.

They will be followed by a whole series of others between now and the end of March concerning temporary work, the so-called "solidarity contracts" with the Government which give financial incentives to firms which take on additional labour, professional training for school leavers, the lowering of the retirement age to 60, and extended rights for building works councils.

The Government attaches great importance to these reforms which are designed to satisfy the demands for change of the ordinary worker in ways that nationalization, decentralization and the abolition of the death penalty adopted last year could not.

The decree procedure was adopted to avoid the delays of the normal legislative Palace, described today's decrees as "a social advance without

precedent since 1936" and the first step towards the objective of a 35-hour week in 1985.

The reduction of the working week to 39 hours would not involve loss of pay, at least for workers earning the national minimum wage. But it would give employers elasticity in order to make better use of their plant than was possible under the 40-hour week rule of 1936.

The exemption from social security contributions would be 75 per cent for firms reducing the working week to 38 hours and 100 per cent for those reducing it to 37 hours.

The aim of the cut in the working week is to create jobs, but employers are highly sceptical.

Whatever its economic results, it shows that the Government is determined to press on with reforms at a steady pace, regardless of pressure from some ministers and employers for a pause.

The Government also has the vast ambition of reconciling landlords and tenants who have been at war since the First World War when rents were frozen for the first time.

On the agenda of the extraordinary session of the National Assembly is a Bill which substantially extends the rights of tenants, but it has been toned down under pressure from the country's 10 million landlords.



Indonesia recalls Ambassador to Philippines

From M. G. G. Pillai, Kuala Lumpur, Jan 13

The Indonesian Government has recalled Lieutenant-General Leo Lopeziza, its Ambassador to the Philippines, for consultations after he made a statement in Jakarta.

The latest remarks came today in an interview with the Manila daily, *Bulletin*. He said only an official repudiation of the claim to Sabah would take definite steps to drop its 15-year-old claim to Sabah. The ambassador

made similar remarks last September soon after his appointment in Jakarta.

President Marcos told the meeting of heads of government of the Association of South-East Asian Nations (Asean) in Kuala Lumpur in 1977 that his Government was still interested in Sabah. Some diplomats suggest that General Lopeziza's statement reflected off-

icial thinking.

Why Boris finds his marvel kept on ice

From Michael Satlow
Moscow, Jan 13

The kidnapping of the American Brigadier-General Dozier by the Red Brigades has brought once again to Italy a large number of American journalists interested in the "Italian crisis". This had not happened for a couple of years, which is a good sign. In the late 70s terrorism and other threats to Italian democracy had allowed many foreign journalists to enjoy long working holidays in Italy, which, while being "in agony", as they wrote, remained a very pleasant place to file copy from.

The questions asked today by the inquiring newcomers are usually the following: Has there been a resurgence of terrorism in Italy after a period of respite? Has the counter-terrorist action by the state failed? And does terrorism remain a serious threat to Italy's political stability?

The answer to the first question can be given in statistical terms. In the first 11 months of 1981, the number of deaths attributed to terrorism was 27. This must be compared with 25 deaths in 1974 (the year of the bomb against the US embassy), 5 in 1975, 9 in 1976, 10 in 1977, 22 in 1978 (the year of the "Bologna massacre"), 22 in 1979 and 124 in 1980 (including the more than 90 deaths caused by the bomb at Bologna railway station).

These figures tell us that terrorism is still as murderous as it has been during the past five years. Another set of figures, referring to "terrorist actions", is, however, more encouraging. There were 474 acts of terrorism in 1974, 628 in 1975, 1,198 in 1976, 2,128 in 1977, 2,392 in 1978 (the record year), 2,366 in 1979, 1,264 in 1980 and 791 in the first 11 months of 1981.

The number of terrorists now being held in jail (either undergoing trial or already judged by the courts) had reached, by the end of October 1981, the imposing figure of 1,496. Of these, 1,085 belong to the extreme left (including 444 members of the Red Brigades) and 307 are from the extreme right.

To sum up, there has been no "resurgence" of terrorism, but no respite either. There has been, on the one hand, less terrorism in Italy in the last two years than there had been in the last 10, but of a more murderous kind. Still, the number of suspected terrorists is so high and so is the number of terrorist actions of all kinds that one can only agree with Signor Spadolini, the Prime Minister, when he says: "The war against terrorism has not been won."

Most one-conclude that the counter-terrorist action by the state has failed? I think that the correct reply would be the same that could be given to the same question if it referred to Britain's anti-terrorist action in Northern Ireland (although conditions are totally different, the level of terrorism being much lower in Italy, where it has had no real consequences for everyday life). That is to say: the security forces have succeeded in containing the spread of terrorism, but they have not destroyed it.

But while terrorism has not been able to function as a detonator provoking a wide political explosion and the disintegration of Italian democracy, the detonator itself has not been eliminated and is still functioning. Probably we fear the political consequences of terrorism less than we did three or four years ago, perhaps because we have got used to it, or because we no longer believe that it can keep growing. The political forces themselves consider terrorism poses less of a threat to Italian democracy than it did a few years ago.

But terrorism remains one of the "four emergencies" threatening Italian stability, as Signor Spadolini keeps saying (the other three being inflation, corruption and the world situation).

Both President Pertini and Signor Spadolini keep stating that there exist undeniable links between Italian terrorism and other subversive groups operating in Western Europe, although it is not certain (and in my view still unlikely) that there exists a foreign "central" guiding Italian terrorism.

But there is continuing foreign support for Italian terrorism. Both Pertini and Spadolini have left no doubt that these foreign links are with Libya as well as with Eastern European countries, including the Soviet Union.

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Arrigo Levi last week discussed long-term dangers for Israel from Mr Begin's policies. Lines omitted from his article stated that most independent observers were convinced of this, among them the signatories of a 1981 report to the Tripartite Commission on the Middle East, who wrote: "Indefinite continuation of Israeli occupation of the territories would be a prescription for war, not peace".

Tonight, remember The Way We Were.



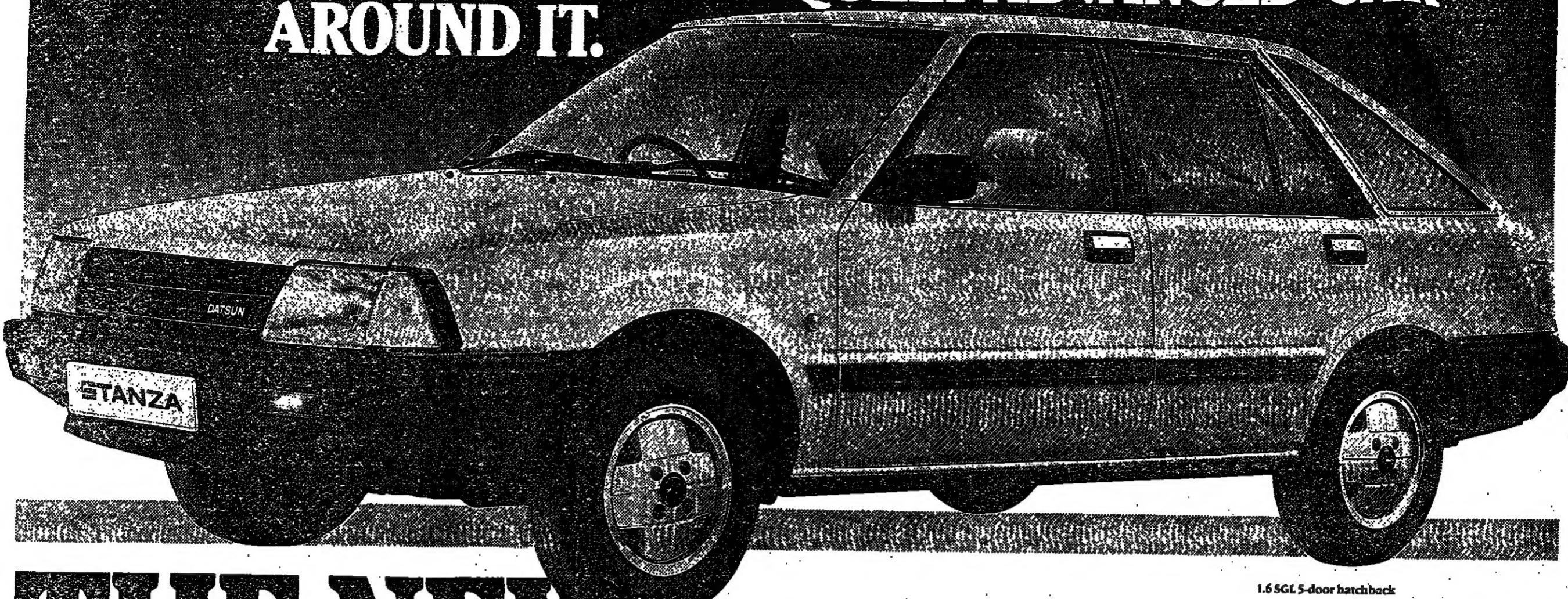
Tonight at 7.30 sees the British TV Première of the beautiful and nostalgic motion picture, *THE WAY WE WERE*. It stars two of the biggest names in Hollywood, Barbra Streisand and Robert Redford as ill-matched lovers whose fortunes change with the passing of time.

So look at the bright side this evening.

THAMES
THE BEST VIEW IN LONDON.

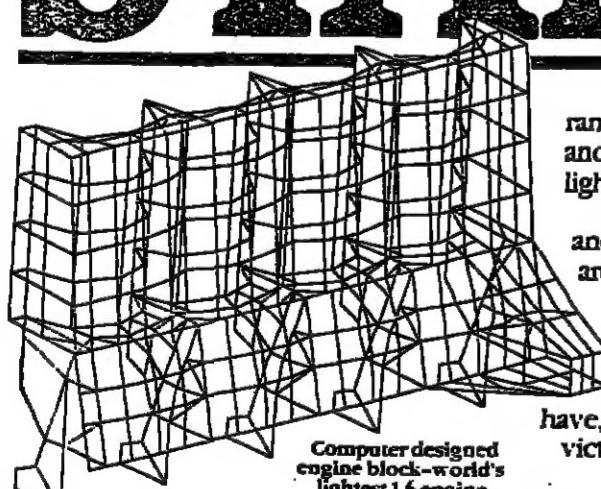
لهم اسْتَغْفِرُكَ

FIRST, WE CREATED A NEW SPACE-SAVING POWER-PACKED ENGINE.
THEN, WE BUILT A UNIQUELY ADVANCED CAR AROUND IT.



1.6 GL 5-door hatchback

THE NEW DATSUN STANZA



Here is the all-new Datsun Stanza - a range of 3-door hatchbacks, 4-door saloon and 5-door hatchbacks, powered by one of the lightest 1600c.c. engines in the world!

The engine is transversely mounted and drives the front wheels. So the Stanzas are roomy - very roomy. And economical - very, very economical.

Although they are new from bumper to bumper, they inherit the tough pedigree of the Datsun Violet saloons that have, for the past three years, achieved crushing victories in the East African Safari Rally.

Now the all-new

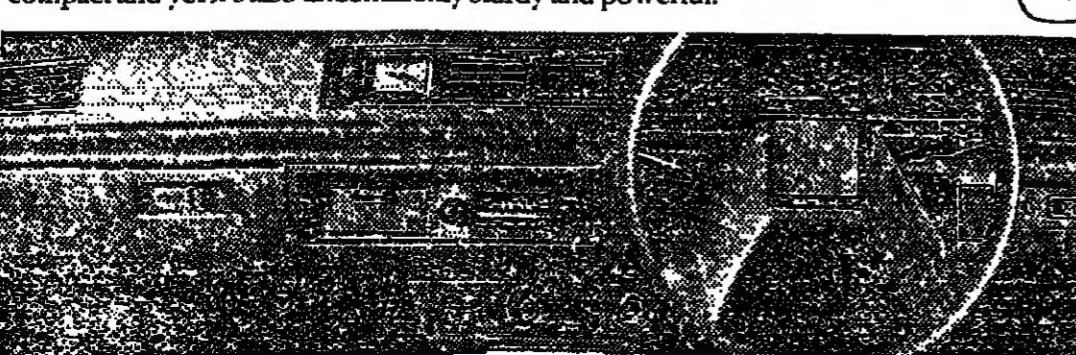
Datsun Stanza is here in a 9-model range of family and sporting cars luxuriously equipped even by Datsun standards. Some models even have power steering, alloy wheels and an automatic gearbox - and there's the option of an electric sunroof.

The prices are extremely competitive - reinforcing Datsun's reputation for giving you exceptional value for money.

ALL-NEW ENGINE - GIVES UP TO 51.4 MPG!

For the Stanza, Datsun developed a special transverse single overhead camshaft engine.

Using a computer, we created a new cylinder block design which gives the engine a unique combination of qualities - it's extremely light and compact and yet it's also uncommonly sturdy and powerful.



NEW STANZA 1.6 GL STANDARD EQUIPMENT

Two remote control door mirrors	Push-in button heating/ventilation controls	Advanced display of warning lights
2-speed wipers with variable intermittent wipe	Side window demisters	Warning chime for 'lights left on'
Rear window wiper/washer (hatchback)	High grade cloth upholstery	Tinted glass
Interior boot/lid release	Push-button LW/MW radio	Adjustable front head restraints
Interior fuel lid release	Quartz clock	Luggage area lamp
Lockable illuminated glove box	Passenger seat walk-in device (3-door)	Maintenance free battery
		Halogen headlights

GOVERNMENT FUEL CONSUMPTION TESTS. MPG (LITRES PER 100KM) DATSUN STANZA 1.6 GL 5-DOOR HATCHBACK CONSTANT SPEED 49.6 (14.5) TOWN DRIVING CYCLE 29.1 (16.7) CONSTANT 75MPH 11.20KMH 38.2 (14.7) DATSUN STANZA 1.6 GL 4-DOOR HATCHBACK CONSTANT SPEED 49.6 (14.5) TOWN DRIVING CYCLE 29.1 (16.7) CONSTANT 75MPH 11.20KMH 38.2 (14.7) DATSUN STANZA 1.6 GL 5-DOOR SALOON CONSTANT SPEED 49.6 (14.5) TOWN DRIVING CYCLE 29.1 (16.7) CONSTANT 75MPH 11.20KMH 38.2 (14.7)

The new Stanza's engine weighs just 2.49lbs - a savings of 20%, and is one of the lightest in its class in the world. This alone dramatically improves fuel economy. But we've also made other changes. For instance, we've found new ways of increasing efficiency by lengthening the piston stroke and adopting dome-shaped chambers.

The end result is a true 1.6 litre 100 mph car which can deliver as much as 51.4 mpg at 56 mph.

When you compare with other 1.6 litre cars, like the Ford Cortina, which gives you 39.8 mpg at the same speed, or even smaller engined cars like the Volvo 343 with 42.2 mpg, you realise the exceptional economy that Datsun have achieved with this powerful new engine.

ALL-NEW FRONT WHEEL DRIVE - LIGHTWEIGHT AND PRECISE STEERING

The new Stanza has front wheel drive for sheer "roadability" and crisp, safe driving. Yet the lightness of the Stanza's engine means that, even in a medium-sized saloon, we can use rack and pinion steering to achieve the precise and responsive handling of a smaller car. As an indication of its manoeuvrability, the Stanza has a wall-to-wall turning radius of just 17.7 feet!

ALL-NEW GEARBOX AND TRANSMISSION - MORE EFFICIENT

We've extracted even more economy from the Stanza by keeping the transmission lightweight and simple and fitting it in line with the engine to avoid energy waste.

On all models, 4th gear is an Economy-Overdrive gear. And on most models there's a 5-speed gearbox on which both 4th and 5th are Economy-Overdrive gears!

ALL-NEW SUSPENSION - ULTRA SMOOTH

The Stanza's newly developed dual suspension system is fully independent.

It is designed to work in two ways. On good road surfaces, soft insulators supporting the strut rods absorb all of the fine vibrations. On bad road surfaces, another system comes into operation: severe jolts are led through a series of springs and absorbers and then finally absorbed by rubber bumper pads. The new Stanza gives the smoothest ride that Datsun's computerised technology can achieve.

ALL-NEW SPACE UTILISATION - MEANS MORE COMFORT

By making the engine transverse and very compact, Datsun have left a vast amount of room inside the car for passengers and luggage.

There's plenty of room in the front and the back. The Stanza is longer and wider inside than either the Cortina or the new Cavalier - yet its overall dimensions are more compact!

ALL-NEW AERODYNAMICS - FOR OUTSTANDING ECONOMY

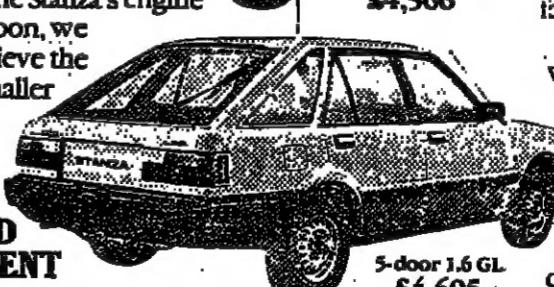
The compact size of the Stanza's new engine allows us to keep the nose of the Stanza very low and move closer than ever towards the perfect aerodynamic shape.



4-door 1.6 GL £4,485



3-door 1.6 GL £4,566



5-door 1.6 GL £4,695

ALL-NEW SOUND INSULATION - SEALED AGAINST NOISE

The Stanza hatchbacks have an aerodynamic drag coefficient of just 0.38 - well below that of many famous sports cars. An important contribution to the class-beating 51.4 mpg at 56 mph of the Stanza 3-door!

THE AERODYNAMICS OF THE STANZA KEEP WIND RESISTANCE AND THEREFORE WIND NOISE RIGHT DOWN.

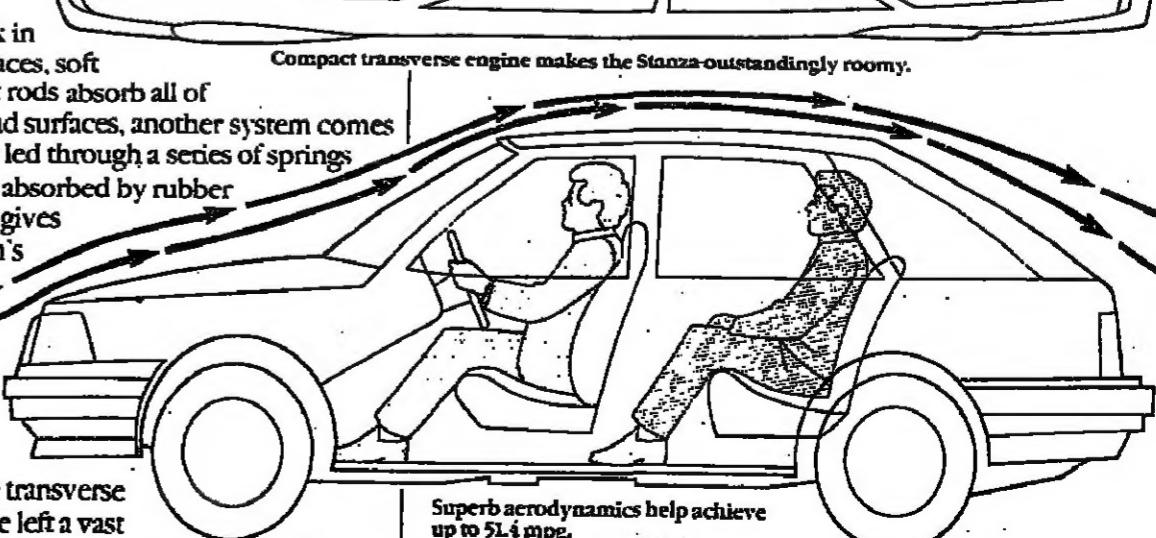
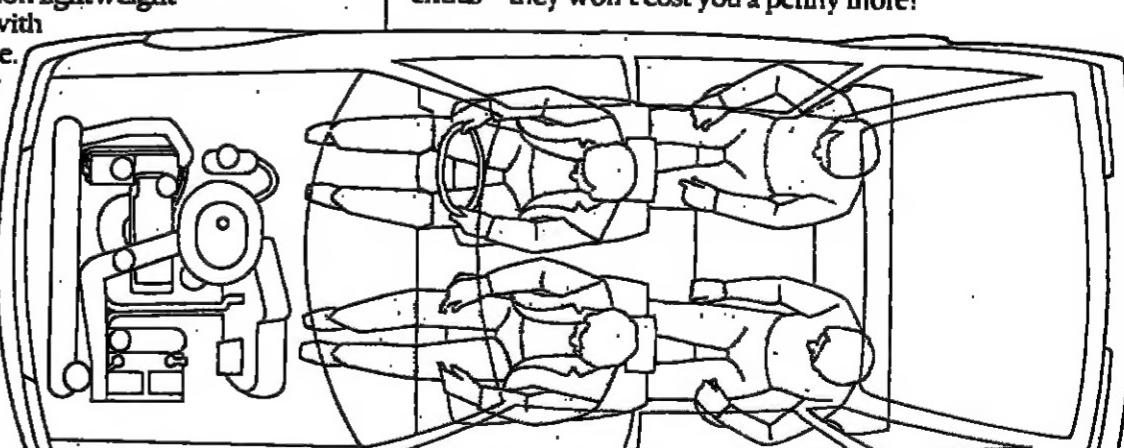
The floor and roof both have triple-layer insulation.

To achieve a quiet ride, Datsun have paid their usual scrupulous attention to detail. There are over 20 different sound prevention devices on the Stanza - like the flexible coupling at the exhaust or on the sound-proof casing round the heater blower.

ALL-NEW FEATURES - AS YOU'D EXPECT FROM DATSUN

The Datsun Stanza is a luxurious family car with a long list of built-in features. These include variable intermittent wipers with choice of 2, 4, 7 or 10 second intervals, push-button heating and ventilation, two remote control door mirrors, interior boot and fuel lid release, maintenance free battery, folding split rear seat and rear window wash/wipe on the hatchbacks, and much more including, of course, LW/MW push-button radio.

Remember too, that these are not extras - they won't cost you a penny more!



Superb aerodynamics help achieve up to 51.4 mpg.

From £4,485 the Datsun Stanza represents real value for money - the kind of value that is only made possible by the advanced technology and resources of Nissan-Datsun, the third largest car manufacturer in the world.

The Datsun Stanza is a totally new car built to satisfy world requirements and perform reliably in all conditions anywhere in the world.

Come to your Datsun dealer and have a test drive today.

**DATSON
STANZA
BY NISSAN**

Israel rules out compromise on Palestinians

From Christopher Walker, Jerusalem, Jan 13

The Israeli Government today ruled out any compromise in its opposition to the Egyptian demand that the 100,000 Palestinian residents of East Jerusalem should be allowed to vote in the proposed autonomy council for the occupied West Bank and Gaza strip.

A senior Government official, speaking on the eve of the arrival of Mr Alexander Haig, the American Secretary of State, said that no change could be expected in the Government's position on the issue, one of the key subjects dividing Israel and Egypt on autonomy.

Mr Yitzhak Shamir, the Foreign Minister, rejected opposition Labour Party suggestions that the Government should make concessions to make a quick autonomy agreement. The Israelis reject the Egyptian view that the former Arab sector of Jerusalem is part of the West Bank, emphasizing in all public comments that it is the unified capital of Israel.

Israel's public rejection of concessions has deepened pessimism among Western diplomats about America's chances of breaking the deadlock in the autonomy talks. Briefing correspondents, the Israeli official acknowledged that there were essential differences with Egypt on the meaning of autonomy. These, rather than discussion of detail, would dominate Mr Haig's hectic round of official meetings.

Pressed to outline the differences, the official said: "It is a basic difference of interpretation. Egypt sees autonomy as a step towards self-determination while we

China fights inflation

Peking runs short of loose change

From David Bonavia, Nanking, Jan 13

Most commodities are in adequate supply in this former capital of China — except coinage. For reasons which nobody seems able to explain, the standard aluminium coins have almost disappeared from circulation.

Whether this means some enterprising person has found the coins can be melted down and worked into products costing more than their face value is a matter of speculation. Chinese post office workers became extremely irritable when I asked them about it.

As substitutes for the coins, tiny paper notes with a face value as low as 0.3p in sterling have gone into circulation recently having previously been circulated mainly in Tibet and in Chinese Central Asia, where the hardiners barely participated in the cash economy.

The introduction of foreign currency certificates, introduced about three ago to combat black marketeering, is also in chaos. For almost anything except air tickets and luxury or imported goods, the normal Chinese currency is readily accepted and almost any shop where one pays in certificates will give change in normal currency. This has resulted in a bigger black market than before the certificates were introduced in 1979.

Nanking has long been a noted centre of black market dealings — its population being familiar with the manipulation of prices and supplies since the time of the Nationalist Government of the late 1940s and one of the most spectacular inflations in the history of money.

After a long period during which the Communist Party and Government imposed the threat of inflation in China, the growth of the money supply has alarmed the authorities to the point where Peking has just imposed draconian price controls.

No prices of anything, anywhere, except at small rural markets, may be raised without official sanction.

ACADEMIC BOOK SALE

TLS
THE TIMES LITERARY SUPPLEMENT

The Times Higher Education Supplement

February 12



Tanks taking up position in front of the smashed gate of a shipyard in Gdansk, photographed by Poles on December 16 three days after martial law was imposed. The gate has been repaired since.

Warsaw hopes for a Solidarity 'without 43,000 officials'

By David Cross

Poland's martial law authorities are increasing their efforts to justify the continuing state of emergency with a fresh attack on some of the most prominent leaders of Solidarity, the suspended independent trade union.

In a bitter attack on such workers and intellectuals as Mr Jacek Kuron and Mr Adam Michnik, leaders of the former KOR organization, and Mr Jan Rulewski and Mr Zbigniew Bujak, regional leaders of Solidarity, the armed forces newspaper, *Zolnier Wolsoc*, claimed that they were nothing more than a "gang of political adventurers".

The newspaper said that at a meeting of the Solidarity leadership in Gdansk on the day before martial law was proclaimed the debate showed that what had started as an organization to help ordinary working people had changed into an opposition political party. Its aim, the paper claimed, was to prepare the working people, against their interests, for overthrowing the socialist system and restoring a bourgeois-capitalist state.

The newspaper said it hoped that after these experiences the working people of Poland would understand that "the time will come to build a strictly trade union organization, a purely working class organization without false advisory, without developed regional structures, without 43,000 officials and without political adventurers".

In what appeared to be an attempt to meet public criticism of the death of news about what is happening inside Poland, Warsaw radio announced yesterday that a

This may be necessary as a result of the recent round of inflation in China, but it makes nonsense of the current economic reform in which flexible pricing according to market demand was planned as an essential element.

Peking has suffered shortages of some foodstuffs in recent months and this has led to panic buying and hoarding. The Government has now promised that food prices will not rise, and has ordered price cuts of between 10 and 20 per cent for transistor radios, black and white television sets, watches and synthetic knit-

At Nanking's biggest department store, people are jostling three-deep at the counter to inspect television sets and radios. But, of course, nobody is buying until the day after tomorrow when the price cuts come into effect and when there will be something like a riot.

In the street markets, controls on prices of commonly eaten vegetables have been in effect for more than six months. But such delicacies as lotus root and fruits are not controlled, since they are considered inessential.

Pork seems abundant, with working people taking home slabs which would be generous for even a European family. Pulses, sweet potatoes and other foods also seem to be in good supply. A locally made bicycle can be bought with ease but people wishing to buy the superior make from Shanghai have to join a waiting list.

The best shops have improved their stock and foreign literature is popular. Pirated translations of Death on the Nile by Agatha Christie, The Day of the Jackal by Frederick Forsyth and Sir Walter Scott's The Heart of Midlothian are available. There are plenty of foreign language textbooks, particularly English, and there is keen demand for a new handbook of American slang.

British aid sought on yellow rain

From Our Own Correspondent Washington, Jan 13

The United States has asked Britain to assist in the collection and analysis of evidence that lethal chemical weapons are being used in South-East Asia and Afghani-

stan. Mr Richard Burt, director of the State Department's bureau of political-military affairs, said that British scientists and aid officials were working in Thailand and other parts of South-East Asia to which refugees from Laos and Cambodia had fled.

It was possible they would come across evidence of the use of these chemicals, which is yellow rain. He added that British research establishments could also assist in analysing some of the samples of the highly poisonous substances which have already been discovered on trees and rocks in the region.

America has accused Vietnam of using chemical agents in remote parts of Laos and Cambodia. It also maintains there is compelling evidence that these chemical weapons are being manufactured and supplied by the Soviet Union.

Evidence already collected by the United States has supplied a fourth general of experts to the United Nations which is investigating charges that Soviet-made chemical weapons have been used in South-East Asia and Afghanistan.

The United States has approached Britain and is also talking informally to its other allies, because it wishes to gain broader international support for its campaign to prevent the use of yellow rain and other chemical weapons. American officials have been dismayed that the evidence it has produced so far has been greeted with considerable scepticism by the international community.

Last September, Mr Alexander Haig announced during a visit to West Germany that America had physical evidence that poisonous chemicals were being used in South-East Asia in violation of the 1972 biological weapons convention which forbids the production, stockpiling or transfer of toxic weapons.

The announcement ended widespread speculation that the Prince of Wales would take up the post. Both the Prince and Mr Fraser initially favoured this, and a spell as the Queen's representative was seen in some quarters as good preparation for the throne.

But that idea was apparently abandoned because of strong objections by the Australian Labour Party and fears that Prince of Wales might have become caught up

Swapo says Walvis Bay is part of Namibia

From Stephen Taylor, Salisbury, Jan 13

Walvis Bay was an integral part of Namibia (South-West Africa) and the South African People's Organization would fight for it in the same way that it is fighting for the rest of the disputed territory, Mr Sam Nujoma, Swapo's president, said today.

Speaking at an airport press conference at the end of a one-day visit during which he had talks with Mr Robert Mugabe, the Zimbabwe Prime Minister, Mr Nujoma dismissed the history which has left the strategic Atlantic port a South African enclave. "We are fighting to liberate each and every inch of Namibia including Walvis Bay", he said.

He said Swapo had still not formulated its response to the latest initiative by the western "contact group" adding, "We are consulting the frontline states, Nigeria and the president of the EEC Council of Ministers, who has since censured all other member states on an appropriate reply, but there has been no agreement on a final text. He will be seeking this in the course of the meeting.

The five nations in the Western "contact group" — the United States, Canada, Britain, France and West Germany last month presented their revised recommendations for elections to a constituent assembly. The key proposal is that half the seats should be filled by proportional representation, and half by candidates elected directly from single-member constituencies (on the British model).

Before the latest talks opened both Pretoria and Swapo appeared to have objectives to the Western recommendations for elections to a constituent assembly. The key proposal is that half the seats should be filled by proportional representation, and half by candidates elected directly from single-member constituencies (on the British model).

The prime minister said that the reorganization of external affairs signalled a national effort to pursue aggressively international export markets for Canadian goods.

The new External Affairs Department will have three ministers instead of one. Mr Marc Macmillan, the new Secretary of State for External Affairs, will be supported by a minister for external trade, and a minister for external relations.

Canberra job for judge not the Prince

By Our Foreign Staff

Sir Ninian Stephen, a High Court judge, will become Australia's next Governor-General in July, Mr Malcolm Fraser, the prime minister announced in Canberra yesterday. The British-born judge, who is 58, will succeed Sir Zelman Cowen, who has been Governor-General since 1977.

The announcement ended widespread speculation that the Prince of Wales would take up the post. Both the Prince and Mr Fraser initially favoured this, and a spell as the Queen's representative was seen in some quarters as good preparation for the throne.

But that idea was apparently abandoned because of strong objections by the Australian Labour Party and fears that Prince of Wales might have become caught up

President moves to plug the leaks

From Nicholas Ashton Washington, Jan 13

President Reagan believes his Administration is the leader in history. Since his inauguration he has regularly complained to his senior officials about the way unauthorized and sensitive material has found its way into the newspapers. But apparently not to my avail.

During the past week alone, *The Washington Post* has carried three separate stories — dealing with secret spending, the sale of aircraft to Taiwan, and urban enterprise zones — which were supposed to have been kept secret.

Although some officials and many journalists believe this Administration to be less prone to leaks than previous ones, an enraged President has now ordered a crackdown, vowing to use "all legal methods" to investigate government officials who may have disclosed classified information to the media.

Last night the President claimed that unauthorised disclosures of classified information had become a problem. He told reporters with the United States Government, issued a statement setting out ground rules to end what he described as "a virtual hemorrhage of leaks".

The directive, based on recommendations by Mr William Clark, the new national security adviser, applies to the National Security Council staff, employees of the state and defence departments and the intelligence community.

In future, government employees who plan to discuss classified information with reporters must do so with prior permission. After the interview, they must issue a report recording the subjects discussed and all information provided to the media representative.

The directive also calls for a reduction in the number of officials with access to material involving National Security Council matters. Their number will be "kept to a minimum essential to the orderly conduct of government business." The President's statement did not say what disciplinary action would be taken against offenders, but an official said details would be worked out later.

Just how determined the administration is to prevent leaks has been illustrated by the fact that Mr Frank Carlucci, the Deputy Defence Secretary, took a lie detector test as part of a Pentagon investigation into determine who told *The Washington Post* last week about a secret report dealing with future defence spending. The report said defence costs could be as much as \$750,000 more than present estimates.

At a press conference today, Mr Carlucci, the Deputy Defence Secretary, said that he had been tested on February 9. Dr Sakharov said that Dr Orlow, aged 57, had been in a labour camp for months and his health, and perhaps his life, are in danger.

Soviet dissident in danger

Dr Andrei Sakharov, the Soviet human rights leader, has given a warning that the health of the imprisoned dissident Dr Yuri Orlow is in danger and has appealed for his release.

In an open letter to the European security review conference in Madrid on February 9, Dr Sakharov said that Dr Orlow, aged 57, had been in a labour camp for months and his health, and perhaps his life, are in danger.

Wedding bliss discouraged

Peking restaurants are encouraging couples to cancel elaborate banquets at the Chinese New Year later this month in a drive against extravagance, according to the *Peking Daily People's Daily*.

National holidays are a favourite time for weddings and many couples have elaborate banquets despite endless official calls for frugality.

Christiaan Barnard divorced again

Capetown — Mrs Barbara Barnard, the wife of the heart transplant pioneer, Dr Christiaan Barnard, has been granted a divorce in the Cape Town High Court.

The couple, who have two sons, were married in 1970 soon after Dr Barnard's first marriage ended in divorce.

Diplomat killed

Beirut — The bullet-riddled body of an Algerian diplomat was found in south Beirut. Security forces said that he was Mr Rabeh Kharwa, a counsellor in his fifties.

The new External Affairs Department will have three ministers instead of one. Mr Marc Macmillan, the new Secretary of State for External Affairs, will be supported by a minister for external trade, and a minister for external relations.

Man boasted of killing Briton, prosecution says

From Our Correspondent, Baltimore, Jan 13

An 18-year-old man charged with murdering a British antiques dealer here last summer bragged to his friends about the crime and only later tried to cover it up, the prosecution told a jury yesterday.

"He repeated again and again to anybody that would listen how he had attacked and killed the Englishman in our city," Mr Stephen Tully, the prosecutor, said on the first day of trial of three men accused of killing Mr Philip A. Rouse of Somerset.

Mr Rouse was shot as he chased a thief who had grabbed a shoulder bag from his 21-year-old girl friend as the couple and another English companion walked in a stylish Baltimore neighbourhood early on August 22 last year.

Several days after the widely publicized killing, the defendant sold the gun, a .32 long-barrelled revolver to an acquaintance in order to get rid of the evidence, Mr Tully told the jury.

The prosecution claim contradicts a statement that

NEWS IN SUMMARY

Yugoslavia premier is a woman

Belgrade — Yugoslavia's collective presidency has nominated Ms Milka Planinc, the Croatian Communist Party chief, to serve as the new premier, the first woman to head a Yugoslav government.

The official news agency Tanjug said that her candidacy was supported by the ruling Communist Party presidium, making her appointment a foregone conclusion. There was no word on when she will take over from Premier Veselin Djuricovic. Other mass organizations at various levels, all led by the communists, will discuss Ms Planinc's candidacy.

Obote pledge on property

Kampala — President Obote says that the Uganda Government is committed to returning property confiscated in former President Idi Amin's "economic war" to its original owners — most of them Asians now living in Britain, India, Canada and other countries.

He told a group of directors of East African Breweries, the Nairobi company which lost its controlling shareholding in Uganda Breweries in 1972, that he would welcome their return to rebuild the Ugandan beer industry.

Seoul publisher faces death

Seoul — The death sentence has been demanded by the prosecution for Mr Lee Taek Soo, a South Korean publisher who is charged with violating the national security law.

Mr Lee, aged 30, is accused of publishing foreign books, mostly by Marxist authors, of massing around the organization of a national democratic students' league and a national democratic labour association with the aim of overthrowing the Government of disseminating the ideals of communism throughout the country. He denies the charges. Twenty-five other people appeared in court with him.

Soviet dissident in danger

Moscow — Dr Andrei Sakharov, the Soviet human rights leader, has given a warning that the health of the imprisoned dissident Dr Yuri Orlow is in danger and has appealed for his release.

In an open letter to the European security review conference in Madrid on February 9, Dr Sakharov said that Dr Orlow, aged 57, had been in a labour camp for months and his health, and perhaps his life, are in danger.

Wedding bliss discouraged

Peking restaurants are encouraging couples to cancel elaborate banquets at the Chinese New Year later this month in a drive against extravagance, according to the *Peking Daily People's Daily*.

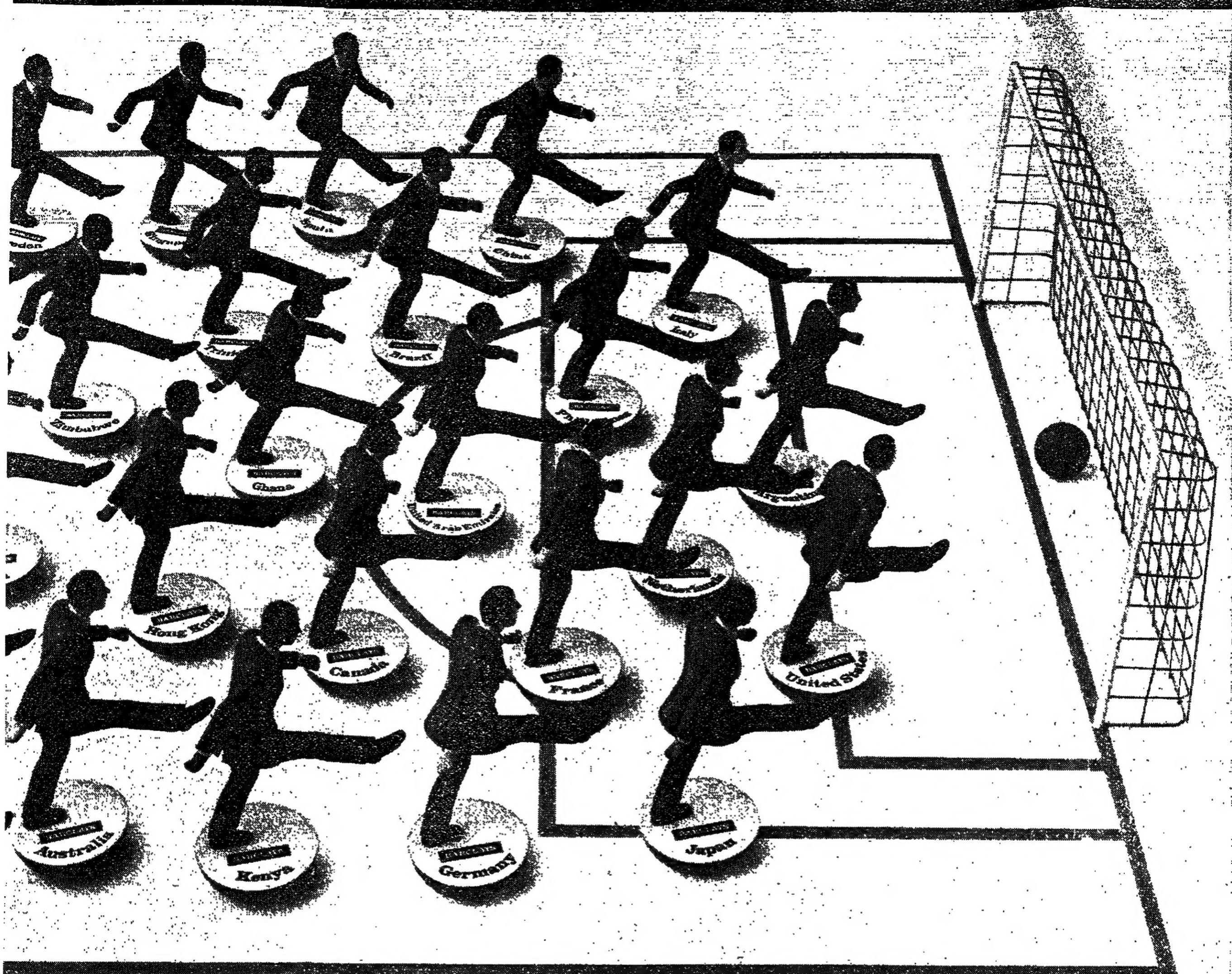
National holidays are a favourite time for weddings and many couples have elaborate banquets despite endless official calls for frugality.

Christiaan Barnard divorced again

Capetown — Mrs Barbara Barnard, the wife of the heart transplant pioneer, Dr Christiaan Barnard, has been granted a divorce in the Cape Town High Court.

The couple, who have two sons, were married in 1970 soon after Dr Barnard's first marriage ended in divorce.

TACTICS FOR EXPORT GOALS.



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BARCLAYS International

PEOPLE WHERE IT COUNTS.

Freed Briton describes ill treatment in jail

By Robin Young

Mr Steven Kitson, the Briton arrested while on a visit to South Africa to see his jailed father, said yesterday on his return to London that he had "broken down and cried" under what he called brutal interrogation and mental torture by South African security police.

He said he was kept in solitary confinement for five days, and for the first 24 hours was interrogated continuously while forced to stand upright without support. He was slapped about the face until his nose bled, shaken so violently that his head banged against the wall, and had buckets of cold water thrown over him to keep him awake.

"On about the fourth day I broke and cried in front of them," he said. "They were asking me most personal details about people mentioned in my notebook, and for anything I knew about my mother's activities with the African National Congress. I mentioned the names of two people who I thought might be involved."

Mr Kitson said that "with hindsight it seemed rather stupid" to have taken photographs of the outside of the prison where his father had been held for the past 17 years, and to make a sketch of it while waiting to visit his father.

"It was purely for a personal, private record. I wanted to show my children what it was like to visit my father in jail. I did not think I was breaking the law at all."

He believed that a campaign organized in Britain on his behalf, and the interest of the press had saved him from worse treatment.

"During a medical examination just after I was arrested I was absolutely terrified, knowing how both my father and mother had been tortured during their interrogations. I was subjected to physical maltreatment and mental torture, but it was clear that the interrogators did not want to leave me with any marks."

"On my second night in



Mr Steven Kitson: Wept under interrogation.

solitary I saw a man who had been detained being taken to the cells and afterwards I heard him being savagely beaten until he was screaming like a three-year-old child. It is the most horrifying sound I have ever heard."

On another occasion, seven or eight people were being processed after arrest under section 6 of the Terrorism Act. They were all beaten up, I think, and the smallest one, a boy of no more than 16 or 17, I saw a warden smash across the face and then kick his legs away from underneath him so that he landed very heavily on the concrete floor."

It had been his ambition to visit his father every year until his release, which is due in 1984, and to help him after he was released. "That ambition will now never be realized. I do not think I can ever return to South Africa and I do not think my sister ought to go either."

Mr Kitson's sister, Amanda, last visited her father two years ago.

He had been in South Africa since Christmas Eve, and had made visits to his father before the arrest. "My father looked physically well and was mentally alert when I last saw him," he said.

The South African authorities had alleged that Mr Kitson's photographs and sketches had been intended as part of a plot to help jailed members of the African National Congress to escape. Mr Kitson denied that anyone else had been involved.

"One thing that heartens me tremendously was that in my isolation cell others who had been imprisoned under the Terrorism Act and who may have been hanged or sent to Robbin Island, had written messages on the walls saying 'Don't fear, don't worry, you will soon get out'."

"My worry now is that this may all be a dream and that I may awake on my bunk looking at the two bricks beyond my feet to see the words 'Don't worry' scratched there."

UN doubles Karamoja food relief

From Charles Harrison
Nairobi, Jan 13

United Nations agencies are doubling their food distribution in Karamoja, north-east Uganda, to avert a return of the famine which in 1980 killed thousands of people, many of them children.

The United Nations Children's Fund regional office in Nairobi said today that it would distribute 1,600 tons of food, mainly grain, this month because local stocks from last year's harvest are exhausted in some parts of Karamoja.

In 1980, a large-scale relief operation for Karamoja was launched to combat the famine caused by several years of drought and the depletion of livestock herds by a combination of drought and inter-tribal raiding. Medical teams and food distributor schemes were organized with aid from many countries, including Britain.

Last year, the aid agency was able to reduce food distributions after the harvest had created reasonable food stocks. But Unicef said recently that the stocks were running low in some areas, so that emergency relief should be resumed.

The United Nations World Food Programme is supporting food-for-work schemes, and Unicef and several voluntary agencies are distributing food twice a week to undernourished children at 18 centres in Karamoja. Unicef says that about 5 per cent of the children examined are below acceptable nutritional levels and every effort is being made to prevent a return to the conditions of 1980, when children were dying in large numbers in Karamoja.

The most serious food shortage is reported from Dodot county, northern Karamoja, where 19,000 families are receiving food. Relief food programmes will have to continue for at least another six months, until the new harvest.

South African 'homeland' repression

Torture and murder reported in Venda

From Michael Hornsby, Johannesburg, Jan 13

A spotlight has been trained on one of the murkiest corners of South Africa's patchwork of black tribal "homelands" with reports here of the detention, torture and even murder of political opponents of President Patrick Mathephu of the impoverished but strategically important Bantustan (as the "homelands" are also called) of Venda.

In the past two months, at least 15 people have been detained, and one of them, Mr Tshifhiwa Muofhe, died in prison last November only two days after his arrest. He had not been ill-health, and, according to informed sources, the district surgeon who conducted the post mortem examination found evidence of torture.

Another missing Venda citizen and member of the local Lutheran church, Mr D. Rakushai, is also said to have died recently at the hands of security police, though this report has been denied by Brigadier T. R. Malauzi, head of Venda's small army-cum-police force.

Four of the nine full-time Lutheran pastors in Venda — Dean T. S. Farisani, the Rev. N. Phaswane, the Rev A. M. Mahamba and the Rev P. M. Phoswisa — are among those being held. And Pastor Faure Louw, a missionary of South Africa's Dutch Reformed Church, was recently deported after eight years in the territory.

Pastor Louw's offence, it is believed, was his friendship with the late Mr Muofhe, whose funeral he helped to arrange. He also gave help to the dead man's widow. Mr Muofhe himself was said by friends not to have been politically active but, as a Christian, he had questioned apartheid on biblical grounds.

The Bantustans are an integral part of the apartheid strategy of eventually turning all South Africa's 20 million blacks (about 75 per cent of the total population) with its protege.

Ghandi drops Maharashtra chief

From Kuldeep Nayar, Delhi, Jan 13

Mrs Indira Gandhi, India's Prime Minister, is looking for a successor to Mr A. P. Antulay, the Chief Minister of Maharashtra, who has been indicted by the state high court for misuse of power and malpractices.

Mrs Gandhi has been shielding Mr Antulay for some months during which the press and the opposition were repeatedly alleging that he had constituted a trust in the name of the Prime Minister to collect money from private parties by selling them over-priced cement. Cement is distributed by the Government directly because of short supply.

Ported her when she was defeated at the polls in 1977.

Matters may not rest here and the opposition will try to make capital out of the court judgment. There are corruption charges pending against the chief ministers of Bihar, Orissa, Madhya Pradesh and Haryana and Mrs Gandhi has not been allowing any inquiry.

The Communist Party of India (Marxist) has said in a statement that it was now obvious that the Prime Minister should revise her attitude not only towards the Maharashtra Chief Minister but towards the whole question of corruption.

Austro-Hungary is also the setting for *The Ruling Pas-*

A master impersonator's epitome of the 1980s: this Rabbit will run and run

Rabbit is Rich
By John Updike

(Andre Deutsch, £7.95)

In 1961, just after Eisenhower and Kennedy just settling in, Harold C. (Rabbit) Angstrom made his first appearance, as an articulate local basketball ace subsidizing under protest into domesticity and ordinary work, in *Rabbit Run*. Ten years later in *Rabbit Redux*, soon after the invasion of Czechoslovakia, the shooting at Kent State, and the moon landing, Rabbit, despite his doggy loyalty to superannuated ideas, gets swept into the rubbish-chute of the times, with a radical black on the run and a spiced-out girl. Now, just over a decade later still, a kind of Hegelian synthesis has been achieved. Rabbit is head salesman at the Toyota dealers founded by his late father-in-law. His marriage has settled down after all its convulsions of infidelity, drink and death. He is happy and he knows it. The only pit in the soup is his lamentable son.

The Rabbit novels are John Updike's best since they give the fullest scope to his remarkable gifts as observer and describer. What they amount to is a social and, so to speak, emotional history of the United States over the last 20 years or more: the period of Rabbit's and his creator's consciousness life. The action of these novels pops up from time to time above the surface of a marvellous, memory-awakening flood of public detail: candy bars, automobile models, dance steps, clothing styles, favoured foods, attitudes to public events, modes of amorous behaviour, catch phrases, even the last faint Time-borne reverberations of happenings in the life of the mind.

Very near the end of *Rabbit is Rich* Rabbit is thinking about the new house he and Janice have just bought (having built up the deposit by way of a nice little operation with Krugerrands and silver). There is a den.

"He thinks in this room he might begin to read books,

instead of just magazines and newspapers, and begin to learn about history," say.

The fact is that Rabbit is an historian already. Everything he sees as he drives on test-pipe round the decaying city of Brewer brings up a fountain of recollection, not

just of his life, but of his times, of how other people lived, not just of what happened to him.

This is a long book and a wordy one, in the best sense,

as when one says of a chocolate pudding that it is rich. Rabbit's thoughts and utterances frame themselves at a high rhetorical level

most of all, perhaps, when he rehearses to himself and others the lavish professional minutiae of the work of an accredited Toyota dealer.

He turns his hand to anything in the *New Yorker*, but too

only because his wrist is too

loose. It is enough for him

that literature, or the world,

is there; he is not in business to do anything about it.

In his third incarnation

Rabbit is treated in a kindly

way. We are lowered as in a

diving bell into the thickly

populated swirl of Rabbit's

inner life, as he peers down

the front of his friends'

wives' dresses, examines and

comments on a medicine

cabinet in somebody else's

bathroom, as he deals in cars,

chats with his second-

command who once had a

now-forgiven affair with

Janice. It is a remarkable

piece of impersonation kept

going for nearly 500 pages.

John Updike shares with Mike Yarwood a certain elusiveness of identity, as if he were one of those grey shiny pads on which a shopping list can be written and then with a quick movement erased. More substantial novelists are impersonators rather of the Eric Morecambe order, absurdly discernible as themselves behind the threadbare Cagney formula. It is this that makes him a less than satisfactory book reviewer.

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pretty severe battering; rarely a night is missed at home and there is energy for some quite tasteful wife-swapping keeping one up all night, as the phrase is, during an exhausting week's holiday in Barbados.

Two sorts of pressure bear down on Rabbit's comfortable life as chief salesman at Spinnin' motors and a member of the Flying Eagle Country Club. The first, and more identifiable, is exerted by his awful whining son, Nelson, a drop-out from Kent State (no longer in the swing of things), complaining his way into the Toyota business and smashing up cars, sometimes out of sheer pique, every 80 pages or so. More general and in the background is the steady dehumanization of Rabbit's familiar world which at least corresponds to the only vestigial human quality of poor Nelson. The demands of the car, the computer, the franchise system have all worked to disintegrate the individual and human scale of the southern Pennsylvania in which Rabbit grew up and has now found a sort of peace.

Anthony Quinton

Cadre of fighting monks

The Knights Templar

By Stephen Howarth
(Collins, £9.95)

The crusades produced three brotherhoods of fighting men: the Hospitallers, the Teutonic Knights (to whom Chaucer's "verray, parfit gentil knyght" may have belonged), and the Knights of the Temple of Solomon in Jerusalem. But these it has always been the Templars who have caught the popular imagination, not only for their legendary valour in battle (and the famous white surcoat with the red cross on the shoulder), but also because of the mysterious circumstances of their sudden, vicious suppression at the beginning of the fourteenth century.

As an order of fighting monks, sworn to vows of poverty, chastity and obedience, the Templars flourished for nearly 200 years. Their original Rule was laid down by St Bernard of Clairvaux, to be a model of chivalry and fraternal service in the Holy Land. But by the end they had become a vast secret society, a state within states, with property holdings stretching across Europe from Ireland to Hungary, and with an international banking network which provided credit (plus interest) to princes and kings all over Christendom. Their suppression in France was achieved in a single night of mass arrests in 1307, followed by a series of spectacular show-trials and confessions, which found the Order guilty of heresy, blasphemy, sodomy, and idolatry — a revelation of the nightmares of the medieval mind. A brilliant chapter on the psychology of their persecution appears in Norman Cohn's *Europe's Inner Demons* (1975).

Stephen Howarth does not go too deeply into these dark waters. He has previously written a book on the Koh-i-Noor Diamond, and he prefers his history to be bright and picturesque. He has obviously followed many of the Templar campaigns over their "exotic" ground, and

his set-pieces, such as the battle of Hattin (possible site of the Sermon on the Mount) in 1187, and the final tragic defence of the port of Acre in 1291, are colourfully managed. He favours the grand, epic figures of St Bernard, Pope Urban, Saladin, Richard Coeur-de-Lion, or the sinister Philip the Fair of France, to the puzzling, often anonymous brothers of the Temple.

Many problems are left unresolved. What was the enormous and enduring spiritual attraction of the elite Templar ethic? How far was the Order really corrupted from within, or simply destroyed by the external forces of growing European nationalism? Most of all, how have the Templars continued to be associated with so many half-mythic, half-historical phenomena: the Assassins, Saladin, the True Cross, the Turin Shroud? Their story is more than an ancient history of battles and persecutions, and their influence runs deep through the more shadowy, gothic zones of English literature, from the ghost stories of M. R. James to the *Langue d'Oc* novels of Lawrence Durrell.

Richard Holmes



Line from the Bibliothèque Nationale in Francis Ames-Lewis's exquisite and scholarly Drawing in Early Renaissance Italy (Yale, £15).

Orgone recital

Record of a Friendship

The Correspondence between Wilhelm Reich and A. S. Neill, 1

THE ARTS

Cinema

Indigenous virtue

With just under seven weeks to run in BBC2's season of Australian films, David Robinson makes his selection from the "cinema miracle"

If proof were needed that the Australian cinema miracle has persisted, in defiance of Cassandra's at home and abroad, it is BBC 2's current season of Australian films. Like most miracles, this one was rather less miracle than happy coincidence of will and organization. In the early Seventies a couple of loud farces, *The Adventures of Barry McKenzie* and *Alvin Purple*, striking well below belt level, demonstrated that Australian films could find an audience abroad. The establishment of the National Film Commission and subsequently state commissions showed the concern of the Government to build up a native film industry, and provided funds that went slightly further than merely priming the pumps.

In Australia, suddenly, there was Peter Weir with his still underappreciated horror-comic *The Cars That Ate Paris* and Ken Hannan, who returned from British television to make the most majestic film of the Australian flowering, *Sunday Too Far Away* (February 21).

The new Australian cinema started with several advantages. It was not weighed down like the British cinema with extravagant habits that come with too long involvement with American production methods, or with toughly restrictive trade unions. Modesty and flexibility are strong assets of Australian cinema. So is the unashamed demonstration of a national idiom, the declaration that Australians are not Americans or British with a funny accent. Through Australian films the world has begun to discover an authentic and identifiable Australia.

The BBC selection illustrates

Australian character, sentiment, humour, language, style and strength. Australian acting has a directness of its own, the attractions of which are demonstrated, at one level, by the growing popularity of Oz TV soap operas. This is truly the projection of a nation.

The new cinema has had its difficulties, foremost and most insatiable, money. Within the past year the Government devised an enlightened tax relief scheme to stimulate investment in Australian pictures; but were forced into a series of contortions and sidesteps when it became clear that the scheme involved the risk of pushing production into a terrible dead end of fast-buck quickies. A revised scheme paid more attention to the individual merits of projects and the degree of Australian involvement.

A continuing cultural dilemma divides those who believe that, to win an international market, Australia had to aim at some mythical concept of the international film, from those who believe that the strength of Australian films is their sturdy indigenous content and quality. History and box office alike support the indigenous view. The films that have achieved commercial success internationally even when they have used some foreign talent, have been as Australian as roos. The "international" pictures have generally sunk without trace, proving that the mid-Pacific film is the same unsound vessel as the delusory mid-Atlantic production which has so often undone British film-makers.

The BBC selection illustrates



Susannah Fowle in "The Getting of Wisdom": Bruce Beresford rising handsomely to a challenge



McGough (left), Patten: nervous tension

Interview: Alfred Brendel

Playing with ideas

The bizarre portrait-model of Alfred Brendel which stands on his piano, half-centurian, half grand piano, surveys a studio of leering faces. There are masks from Africa, Indonesia and New Guinea, faces from Peanuts cartoon strips and an extraordinary early surrealist Vietnamese etching of Beethoven's head, with a couple locked in embrace in the tangle of his hair. "That must have been because Beethoven was foolish enough to say something about the entire person being both male and female," laughs Brendel, and scurries off to find the reference in a tiny old book.

Brendel's studio and his conversation reverberate with the play of ideas, the absurd, the whimsical and the macabre bouncing in and

out of the deeply serious, fusing in an instant like a metaphysical conceit. Haydn's face comes into focus: "Goethe says he had the two most important qualities of genius: naivety and irony. I think what he means by irony is a sort of detached oversight, whereas naivety is the opposite, the total involvement. But today we notice much more the adventurousness of Haydn, the mocking of rules, rather than the setting of them, that we are used to. Mozart and Beethoven who came afterwards."

Haydn and his piano sonatas take up a large place in Brendel's life at the moment. He spent his last sabbatical studying what he considers to be an unjustly neglected corner of the repertoire, and intends to continue playing and recording the sonatas over the next few years. In his Festival Hall recital on Sunday he will play the late D major Sonata. "The second movement is quite crazy, one of those anti-minutes, anti-scherzi, where all the accents are wrong. I want to make the public listen to Haydn and show them that music can be fun. Particularly when I play the C major Sonata, too, I like to sit there like one of those little men in a Charles Addams cartoon, to show them something quite extraordinary is going to happen."

He will play the D major Sonata on a modern concert grand; but how does he rate performances of Haydn on

original keyboard instruments like the fortepiano? "I'm much less interested in what Haydn's or Mozart's or Beethoven's piano could do than what their orchestral and chamber music sounds like. Their keyboard music is most often a reduction of ideas for all possible media. Take the A minor Mozart Sonata, for instance, which I shall play after the Haydn Sonata. I have made up my mind now, as I wanted to do when I was 20, I'm playing it as an orchestral piece, not as something which has to be scaled down to a Mozart piano. That would not, in my opinion, do justice to what the piece wants to say. It is so big in scale, so grandiose and orchestral in the first movement, that we must take advantage of the orchestral colours of a modern concert grand."

Last year, Brendel released an important new record of the late piano works of Liszt, (Philips 9500 775), a composer with whom he has been obsessed for many years. He was playing and recording the late works 25 years ago when nobody else was tackling them; in 1978 he received the Liszt Society's Grand Prix du Disque; but only now, he feels, are we beginning to listen to them properly, not as dazzling technical masterpieces, not merely as forerunners of twentieth-century music, but to feel their true heart.

For Liszt is another face, his music another mask, that still exercises its fascination over Brendel. He has, indeed, compared these late works with the discovery of the primitive in European painters like Gauguin at the turn of the century. The "brevity and monumentality", the "monotony and refinement" that he sees and recreates so tellingly in the dark colours, the bare unison writing of *Unstern*, its growing obsessiveness, the almost dizzy claustrophobia of the *Csardas macabre*, are just facets of that "bitterness of heart" of the decline of tonality and human personality in late Liszt which intrigues Brendel.

It is a subject about which Brendel has written fascinatingly and illuminatingly in an essay which accompanies the record. For Brendel, unlike many performing artists, writing is a constant and necessarily integral part of his art, shaping and articulating verbally the ideas he is working out through his playing. "I'm interested in thinking as clearly as possible. In music, thinking and feeling are necessarily connected, the reptile and the mammal contribute emotion, but the sense of order and necessity is generated by ratio. Reason is clarifying force, a filter for the emotions. And I'm intrigued to find out how clearly one can write about music without over-simplifying, by being specific, but not esoteric."

Hilary Finch

Television

Aspiring to saintliness

Dora Greenfield has erred, diminished herself permanently in her husband's eyes by her escapades but not to the extent where he can forbear to take her to bed. Their reunion takes place in a lay Anglican community where the light of righteousness shines but the shadows hide the conflicts between spiritual aspiration and base temptations. It is Iris Murdoch's *The Bell*, dramatised in four parts on BBC2 with the first in view last night. It promises well.

Dora, earthy, pulchritudinous and compassionate, a forgivable sinner, is first encountered taking leave of her boyfriend before joining the community and measuring herself once more, and

obviously hopelessly, against her husband's superiority.

He, an art historian examining the ancient manuscripts of the adjoining abbey, has already added the approbation of the community to his own highly developed self-esteem.

Into this clutch of aspirant saints who have not yet reached an altitude where the clay has been left behind, moves Dora, willing but inexplicably worldly, tip-tapping on high heels whose flat shoes make no sound. They are described to her as "an uncomplicated little group", a simple definition that makes us aware that we are in the presence of characters about to be unmade... and the unmaking is soon under way. It makes for a gripping start.

Tessa Peake-Jones delightfully plays the errant Dora;

James Warwick her apparently elevated husband; Ian Holm, who takes most easily parts, is the failed schoolmaster, trying hard to repent of his homosexual sins but still very much in the presence of temptation; Michael Maloney is the young student with whom Dora finds communication possible.

The Bell, produced by Jonathan Powell, directed by Barry Davis and dramatised by Reg Gadsby, is well cast, well photographed and painlessly directed. It was shot on video in the very short space of nine days, but that does not show and the further episodes should be rewarding.

Dennis Hackett

Theatre

Man as predator

Follies Berserk

Cockpit

Whatever injuries men have dealt out, the Three Women Mime Company are ready to take revenge. One of the sharply pointed numbers in their *Follies Berserk* is a monumental indictment of the male as predator, yet the materials are simple, and even abstract. Petal Lily, a pretty white-faced clown, stands waiting somewhere on a street while male voices telling her to cheer up and asking the time become threatening, sexual and ominous. A towering, empty raincoat moves behind her as she backs away in fear and the suddenness of the following assault is a graphic illustration of the woman's state of mind, and of the actual threat posed by man as rapist.

In another imaginatively concerned item, called "Businessmen", the male sexual image is ruthlessly skewed. It opens with walking neckties and jackets, a picture which resolves into the competitive figures of the three women, Miss Lily, Claudia Prietzel and Tessa Schneidemann jostling each other for the favours of the secretary, an inflatable sex doll with a shorthair pad in the place of sexual parts. When they decline into drunkenness at an office party they suggest the grotesqueries of Steven Berkoff in *Decadence*, although their actions are never as defined or as detailed.

Absolute command of their movements is lacking, but in their sort of mime, which uses words, recordings and painted images — often with a suggestion of Magritte — the compensations are in the ideas. Not everything is formally feminist, and one of their most successful items is a spoof of Agatha Christie stories with three old women plotting each other's murder, while another piece explores the absurdities of carrying handbags. Nonetheless, they articulate a feminine view of the world, particularly in the "Follies" section where a striptease is translated into a mother's unsaddling of an infant.

Ned Chaillet

Afghanistan: Where the cold war hots up.



In 1979, Russian troops rolled into Kabul to crush the Afghan guerrillas.

Two years later the Russians are still there. And the guerrillas are still fighting.

Working alone, cameraman Nick Downie (ex-SAS) slipped secretly into Afghanistan to join the guerrillas. The film he brought back gives a unique soldier's view of this crucial struggle. See it tonight on TV EYE, 9.30 pm on ITV.



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Poland: how the western banks played into Soviet hands

John Barry argues that the ramshackle economies of eastern Europe should be allowed to collapse

There is something awesome about western Europe's mishandling of its response to the Polish debacle. The crisis has loomed for years, since the USSR which is able [thus] to divert far greater resources to its military sector..."

Then came Kissinger at the Organization for Economic Cooperation and Development. And by the end of the year, Jacques Billy, Nato's chief economist, was musing publicly whether it was sensible for the West to divert so much of its available credit to Warsaw Pact countries when Nato's own members were urgently need money investment, and when a shortage of western credit which they could afford encouraged Third World countries to look to communism.

By the end of 1975 it was also becoming clear that the spiralling Soviet block debt at a whole was worrying, with Poland merely the most precarious example. In June 1976 Dr Kissinger, the United States Secretary of State, raised the issue at a ministerial meeting of the Organization for Economic Cooperation and Development.

Already, Poland's debt service ratio — the percentage of annual foreign exchange earnings needed to repay principal and interest due on outstanding debts — was somewhere between 20 and 30 per cent, with the other five countries of Soviet Europe not far behind. Italy in 1974 had been shut out of the Euromarket — forbidden further loans — when its debt service ratio reached 10 per cent. Yet now the western banks went on lending.

The strategic implications of loans on this scale were realized. A meeting on East-West technological cooperation organized in Brussels in March 1976 by the Nato economic directorate concluded that: "... perhaps the West should exercise greater restraint in future in such concessional areas as credits,



Henry Kissinger, who raised the issue of Soviet block debts in 1976; and Hans Friderichs, chairman of Dresdner Bank, Frankfurt, who has been coordinating talks between western banks and Poland. He visited Poland this week.

debts but the fostering of Solidarity and the use of any leverage that the West could find to that end. Yet the western governments allowed the banks to continue to dictate policy with results wholly inimical to the interests of the governments were trying to secure.

If Solidarity were to stand a chance, the West had to relax its economic pressures on Poland, because the immediate outcome of Solidarity's victories would clearly be a worsening of Poland's economic plight.

The five-day week won in the Gdansk agreement, for example, meant a 15 per cent fall in Polish coal output. Poland had to be given time.

Western governments agreed to this. Despite the paralysis of Washington, under a new administration, they decided quite swiftly to reschedule Poland's most immediate debts. The banks, by contrast, not only took months to come to a similar agreement but shut Poland from the medium and long-term credit market, forcing Warsaw to seek short-term loans. Poland is said to be paying 16 per cent on some.

This is nonsense. From the birth of Solidarity, the West's priority became not the orderly repayment of its

hard currency trade balance to meet those debts. Poles cut imports in 1981. But those imports were needed to fuel the western machinery already installed.

The phenomenon economists call the "cascade effect" — whereby a shortage of one causes ripples throughout industry — took grim hold. Poland, with one third of its capital stock unused, ground towards breakdown. Intervention became inevitable.

As this predictable (and predicted) cycle unfolded, western governments proved unable or unwilling to exert effective pressure on their banks. And a prime reason was the dominant influence of treasuries and central banks with their arguments that, even in this pass, the freedom of the commercial banking sector must be observed.

The imminent failure of this substitute for a strategy was foreseen. By the autumn of 1980, Nato had settled down to plot possible western responses to military intervention in Poland; and by last spring a series of measures had tentative agreement. But

desperate to improve their hard currency trade balance

What the Soviet block owes		
(Net hard-currency debt to the West in billion current US dollars)		
	1970	1981
Bulgaria	0.7	4.5
Czechoslovakia	0.8	3.4
East Germany	0.8	5.8
Hungary	0.8	18.20
Poland	1.1	31.35
Russia	1.6	19.21
USSR	1.0	9.5
Connex Banks	0.3	6.7
Total	7.3	69.123-140
Sources: Wharton Economic Forecasting Associates' International forecast.		

States could achieve nothing without European support.

United States leverage against the Soviet Union is confined to grain and high technology, particularly to develop the resources of its eastern wilderness. Western Europe, by contrast, is better placed to take action directly against eastern Europe, point which the communiqué issued by the Nato foreign ministers barely addressed. It appeared designed to disguise the strength of the Polish military.

Against this contingency, Nato governments concerted no plans. Why not? Because they realized they could not agree. (It was a characteristic Nato response: most of Nato's military preparations are similarly geared to the most politically comfortable scenarios, rather than the most likely ones.)

Now the crisis is upon us. There is a good deal of talk about European impotence. The truth is that western Europe is in a strong position to act better placed to take action in fact, than the United States.

It is not hard to discover the reason for American sanguinity. The Polish-Catholic lobby in the US is probably second in strength only to the Jewish. But Washington has few levers against eastern Europe. American banks are not among the biggest creditors of Poland or the eastern bloc; so on that front the United

trading. In this case little or no trading will take place unless western governments step in with fresh loans or guarantees. Before governments decide whether to risk billions more of their taxpayers' money to bail out Poland, it is reasonable to ask what foreign policy goals those loans would serve.

After a decade of dizzy borrowing, the six countries of Soviet eastern Europe now owe the West more than \$60,000m (gross debt at the end of 1981, according to Nato sources). Most have little chance of repaying their share without transforming their economies and that has little chance of coming about without radical political change.

Some of the six may have indeed already caught the "Polish disease". In the upsurge over Poland a fortnight ago, an omen from elsewhere in eastern Europe passed unnoticed. The Romanian authorities ceased for a time to respond to worried telegrams from western central bankers. There is little doubt, in fact, that Romania cannot meet its debts without a rescheduling along Polish lines. Nor will rescheduling help Romania much unless it effectively reforms its economy.

After that, take your pick. East Germany in trouble in, perhaps, two years? Czechoslovakia about the same time? Any bets on Hungary?

It may be in the West's interests to bail out its fellow members of the Warsaw Pact. But it is by no means evident. There is good evidence that eastern Europe ceased to be an economic asset to the Soviet Union and became instead a burden around the mid-1960s. Throughout the 1970s the West in effect shouldered part of the Soviet burden and thus helped the Soviet Union to maintain its empire.

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politics — but politicians wishing to preserve stability must carry the people with them and must recognize the limitations of their design. Mrs Thatcher has never shown the slightest sign of pushing her ideology so far as to ignore this proviso.

Nor has she any equivalent to the ideology of the left which seeks "irreversible socialism". We have yet to hear her speak of "irreversible capitalism".

Above all, she lacks the ultimate "ideological" drive which moves the Labour left. It is not simply the left's policies for industry that have driven good Social Democrats out of the party, and that of Mrs Thatcher, who has brought the so-called centre ground of politics which all successful Tory governments had previously occupied.

In other words, Mrs Thatcher and Labour's dominant left are accused almost even-handedly of ideology, as though, beneath the surface, the two kinds of extremism that are driving good Social Democrats out of the Labour Party, but the left's anti-parliamentarianism, and its belief that by the power of "party democracy" and in the name of its ideological vision it is entitled to impose by machine politics a wholly new system of party-dominated government on the nation.

Who, then, can rationally apply the word "ideological" to Mrs Thatcher and to the Labour Party, pretending that it means the same sort of thing?

Labour may be rescued from its dangerous ideology by the treaty of Bishop's Stortford. In that event, if predominant influence is again restored to the likes of Mr Denis Healey and Mr Peter Shore, it is a question of how necessary the Social Democratic Party will be. If, however, as is more likely, Mr Healey and Mr Shore are dragged behind the chariot of the left, then the pragmatism of British politics, the people who recognize the proper limitations as well as the benefits of ideologies, will be the Alliance and Mrs Thatcher. If we are to have a healthy and free political society, the centre ground must lie between the positions they now occupy.

The debt can govern in supply and demand. Advanced types might have seen this if it had been months ago. The talk on inflation in Peking that it is reducing large parts of China's districts. Reagan's budget cuts and other aspects rating relative China and America's credit.

In Office Price has made much press attack. The Chinese clear that the Taiwan's fault for it serious relations with State, Britain, Russia and so on. Overlooked, Taiwan's official with Mr. Ke Taiwan would under the withdraw recognition government relations with Peking.

Certainly, plait are more hygienic than the spiked-claw atrocities of punk hairdos, yet plait are also intended to shock. The typical wearer will appear perfectly respectable from the front, three-piece suit, tie, polished shoes. Only when he turns his head will the full force of the fad strike you.

Dress designer Rory West is one YMT who has taken up the habit. "I used to have long, green hair," he tells me, "then one night I decided to shave it all off. I left this little snake-like green hair hanging down." He is often stopped in the street by people who tell him he has something on his head.

Barbers suffer a strange compulsion to cut plait off on sight, so most wearers look after their own hair.

Peter Watson

Germany's bravest peacemaker

On Martin Niemöller's 90th birthday, Paul Oestreicher looks back at the career of this near-legendary German church leader.

To almost universal surprise the slogan "make peace without weapons" — it rhymes in German — is sweeping through the young generation from Hamburg to Munich, from Aachen to Berlin. And it has not stopped on this side of "the Wall". The theme of swords into ploughshares has gripped the public imagination in both German states. In the West a higher proportion of 15-year-olds than anywhere else are opting for a social service alternative to military training. Young East Germans by the thousand are — through the Church — petitioning their government to give them the same kind of option.

What makes this doubly unexpected is that the leadership comes almost entirely from the German Protestant Church. There is really no German tradition of pacifist idealism, secular or religious. German Lutheranism has always discouraged dissent from the legitimate demands of the state. Consequently even Hitler's rule was accepted with varying degrees of enthusiasm by most Christians. But a brave minority banded together to form the Confessing Church, the Christian resistance. Their undisputed leader was Pastor Martin Niemöller. In the thirties his name was a household word around the world.

Today Martin Niemöller, celebrating his ninetieth birthday, can take some pride in the fact that without him and his friends mass peace movement largely based on the Sermon on the Mount would hardly be thinkable. Niemöller was born into a

traditional Prussian parsonage. For a career he chose the Imperial Navy and by the time the First World War ended was commanding a U-boat. The Kaiser's defeat meant unemployment, a period of farm labour and then training for the Lutheran ministry.

By the time Hitler came to power Niemöller was rector of the fashionable Berlin suburb of Dahlem. Many of the top Nazis were his parishioners. He was not unsympathetic to a disciplined movement which promised to "clean up" the nation. But as soon as the party began to impose its pagan ideology on the Church he began to organize a clerical resistance movement.

Hitler recognized the threat and summoned him personally. Göring on that occasion confronted him with the transcript of a bugged telephone call. He stood his ground and redoubled his efforts to defeat the Nazi-infected German Christian Movement. "Yet," he was later to confess, "I failed to present the true challenge of Christ to Hitler. I could have and should have."

On July 1 1937 he preached "The Church was embarras-

sed. It dropped him as its "foreign minister". Twice he was reelected as president by his provincial synod by the slenderest of margins. He ruled the province in episcopal style, though he rejected the title of bishop. He brought warmth, humour and efficiency to the job but little time for democratic niceties, still very much the U-boat captain.

But the peace movement had dominated the latter years of his restless ministry. Like many a prophet he was never easy to live and work with; yet even his political opponents admit to liking him and to accepting the authenticity of his preaching and the integrity of his faith. Only the death of his wife in a car crash some 20 years ago took away, for a time, his warm smile.

A symposium on prophetic ministry for the eighties, the Church's political role today, will mark his ninetieth birthday. There will be no nostalgia. Characteristically, he has never taken time to write an autobiography and does not regret it. With his much younger German-American second wife he will enjoy children and grandchildren, friends from around the world and good cigars and wine. His main regret will be that the Church has learnt so little from its disastrous compromises with those in power. His mind will be in places like Poland and El Salvador, his heart with the young peace marchers and he will thank God that Hitler turned down his crazy patriotic offer to exchange his cell-for another stint of U-boat service in the Second World War.

Paul Oestreicher
The author is Assistant General Secretary of the British Council of Churches.

celebrated cave paintings of Tassili. Tassili n'Ajjer is an enormous, curiously eroded mass of sandstone in the middle of the desert (its name means Plateau of Rivers). It is full of deep gorges and ravaged cliffs and it was here in the early part of the century that a French explorer found the first in a series of extraordinary cave paintings believed to date back to 4,000 BC.

The drawings showed elephants, hippos, antelopes and giraffes, quite apart from a number of different kinds of people — hunters as well as farmers. The people, according to the drawings, wore basket-like structures on their heads, hairs shaved into a pattern and sometimes wore horns. They buried their dead, it is thought, in breast-shaped stone mounds which are unopened to this day.

The presence of the animal drawings suggests that the area was far more fertile and accessible at one time than it is now, a supposition supported by the account in Herodotus (roughly 480 BC-420 BC) that there could still cross the Sahara in his time and the fact that pollen from olive, olive, palm and lime have been found in Tassili in association with cattle bones dating back to 3,000 BC. Paintings of horse-drawn chariots have also been found in the area and some believe there was once a chariot route linking what is now Niger with Tripoli.

More social gains

Though it is a very inhospitable area now, Tamanrasset — the area in Algeria where Margaret Thatcher was last seen — has not always been rough territory. In Saharan terms it is close to the

THE TIMES DIARY



Following my F. E. Smith anecdote the other day, I now hear from John Campbell that he has just delivered

his biography of Smith to publishers Jonathan Cape. It has been five years in the making and Campbell believes it is the first properly researched life of the great man.

It contains a controversial chapter defending his role in the Casement trial plus a number of unpublished Smith stories. There are two, which both involve Jimmy Thomas, leader of the railwaymen in the 1920s.

executive, provides today's three practical uses of the social sciences. Dr Parry is worried about media bias against the social sciences, so this extract from his letter will help redress the balance.

"(1) The practice of bringing parents (especially mothers) into hospital with their sick children, and to foster children's play in the wards, as an aid to speedier recovery. This was implemented against considerable organizational opposition.

"(2) The relationship between social factors, such as social class and sexual divisions, in relation to the distribution in the population of disease, educational and occupational opportunities, social mobility and other aspects of life chances, including unemployment.

"(3) The concept of the self-

Thomas was a proud man, especially fond of his accent and his dropped aitches. One day he complained to F. E. that he had a terrible hangover. "I'm afraid I've got an 'ell of an 'eadache," F. E. replied smoothly: "Try a couple of aspirins."

The other story tells how, when Thomas was elected to the House of Commons in 1910, he was at first bewildered by the corridors of power. He asked F. E. the way to the Casement trial plus a number of unpublished Smith stories. There are two, which both involve Jimmy Thomas, leader of the railwaymen in the 1920s.

Fulfilling prophecy has been used in research to show the importance of teachers' definitions and those of others on educational performance."

I must confess I was under the impression that the idea of the "self-fulfilling prophecy" had been disproved by later research, but I hope that does not mean I am biased. Three final uses tomorrow when I shall also award the writing bottle, with the aid of Michael Posner, chairman of the Social Science Research Council.

"It looks to me as if they are ordering these things better in France. The Mairou government has increased the funds for scientific research as for all

per cent this year. Not bad. But what is more remarkable is the whole-hearted government

the New Year or Birthday honours lists. Better than a life peerage, much better than a knighthood is election to the Royal Society. For the scientist, FRS after one's name means far more than any number of letters in front of it. So it will be of more than passing interest to our scientific readers to find the Royal Society receiving criticism for perpetuating a certain type of Fellow.

Dr Herbert Eisener, a former director of the Explosive and Flame Laboratory of the Health and Safety Executive, writing in *New Scientist*, reveals that Cambridge has done much better than Oxford, London or any other universities in nurturing potential Fellows. He says that the number of Cambridge graduates elected to Fellowships since 1971 is between three and five times the number to be expected based on the size of the university's science student population. The number of Oxford graduates elected since 1971 is between 7 and 2.5 times the number to be expected while the University of London actually falls significantly short of its quota (and other universities are "hardly in the running").

Specifically, after eliminating Fellows whose first university through accident of birth was outside the UK and those whose antecedents are less well documented, Dr Eisener says that of the 286 remaining Fellows elected since 1971, 93 (33 per cent) came from Cambridge, 51 (11 per cent) from Oxford, 59 (12 per cent) from London, and 102 (35 per cent) from other universities.

Dr Eisener's research clearly shows that Oxbridge continues to



Wellington are snowbound in Gloucestershire,

the boring thing is that my Wellingtons are snowbound in Gloucestershire,

but I am told to wear a plait in the hair. No longer confined to pirates and eccentric members of the aristocracy, plait-wearing is



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BANKERS AND THE BANK

One can sympathise with the Cabinet as it grapples with the Monopolies Commission's report on the future of the Royal Bank of Scotland. At any time ministers prefer the commission to take the onus of deciding delicate take-overs off the government's back. All the more devoutly have they wished the commission to come to a firm conclusion on this occasion, when the Governor of the Bank of England has placed his own prestige in favour of one bid, and against another, when the take-over has aroused such strong feelings within the Scottish community, and when half the nation's departments of state from the Foreign Office to the Treasury have become embroiled in the dispute.

By all accounts, the commission has stepped back from the final responsibility and put the ball back into the Government's court. And that, although not a particularly brave decision on the part of the commission is where it should be. The Royal Bank of Scotland take-over has raised issues of the future of banking control, the status of the Bank of England, relations with China, and the future of Edinburgh as a financial centre, which are far beyond the normal questions of monopoly and free competition raised by a com-

tested bid. By adamantly opposing the bid from the Hongkong and Shanghai Banking Corporation, the Governor of the Bank of England has made it difficult for ministers, let alone the Monopolies Commission, to gainsay his advice without damaging the prestige of the whole Bank of England. By proceeding with the bid against the Governor's advice, the Hongkong Bank has inevitably challenged the whole system of discreet control and informal guidance on which the banking system is regulated.

The compromise response, and the one which the Monopolies Commission seems to have been tempted into, is to avoid offence by using the Scottish factor as grounds to refuse both suitor. Thus all parties would be equally content because all would be disappointed equally. Yet this would solve nothing. It would not ensure the future of an independent Royal Bank of Scotland, whose directors have stated that they must merge if they are to thrive in a competitive international context. It would not meet the interests of the Royal Bank's shareholders, whose shares have already fallen 50p on news of the rumoured conclusion of the Monopolies Commission. It would not meet the questions of compe-

titiveness posed by the protected British clearing bank system. Above all it would not meet the problems posed by industry which would broadly concur. You state, however, that Government can do little to ensure that manufacturing companies which are improving productivity can continue to do so in a "more normal economic environment".

I do not consider that Government should be led to believe that it is incapable of offering assistance to industry whose efforts during a time of unprecedented economic recession have been notable.

You rightly point out that investment cuts have fallen significantly on capital expenditure programmes. Surely then there is a case for a modest relaxation of the PSBR target and for lifting the present restrictions which prevent available private finance from being invested in public sector projects. The removal of these restraints would amount to a slight reflation, which would perform the invaluable service of absorbing the extensive spare capacity in private manufacturing industry but should not be seen as contributing to the chronic inflation which it is essential to overcome.

It is of equal importance for Government and in particular the Department of Industry to realise that industrial prosperity must ultimately depend upon the creation of a stable environment in which business can plan for the future.

To this end it is imperative that Government takes a lead in identifying and promoting a clear industrial policy which will ease our transition to a modernised industrial structure.

If Government implemented these measures it could do so with the assurance that any glimpse of light at the end of the tunnel would not be discounted as a mere hallucination.

Yours faithfully,
ROY CLOSE,
Director General,
British Institute of Management,
Management House,
Parker Street, WC2.
January 5.

MR GORMLEY VOICES HIS DOUBTS

As the miners begin to cast their votes in the pithead ballot today, many of them may feel that they are making a bet which they can win, but cannot lose. Backing the call for a strike "if necessary" does not commit the union to action, and there may be a few extra pounds to be squeezed out of the National Coal Board by threat alone. But industrial disputes take on a momentum of their own, and a vote now for a strike would put matters on a footing where a modest compromise or retreat would become far more difficult, and a strike might become inevitable even without most of those involved wanting one.

One experienced eye, at least, sees that the bet is not without risk of loss. Mr Joe Gormley, still president of the union, has written in yesterday's *Daily Express* to give forceful warning, in funeral black borders, of the dangers to the union, the industry, the labour movement and the country that might follow a coal strike. He believes that the board's financial position rules out a concession of "more than a few quid", and adds that "there is not a union in the country which has done better since Mrs Thatcher moved to Downing Street" — an observation

which is probably true, though almost equally unwelcome to Mrs Thatcher and Mr Scargill.

The miners' claim is for 23 per cent, and the coal board's offer stands at 9.5 per cent or 10.5 per cent for men with long service. The claim is far in excess of the present rate of inflation (about 12 per cent). It is based on an assessment of what is needed to restore miners to the position they were given by the 1972 Wilberforce award. The custom of negotiating to return to some past high point of negotiating success was, of course, one of the most fruitful hasteners of inflation in the sixties and seventies. In this instance, the claim cannot be sustained either in terms of the industrial pecking order or of purchasing power: miners have risen in the industrial league, even if no price is put on their relatively high security of employment these days. The cost of living since 1972 has risen 274 per cent, while miners' earnings would have risen 385 per cent even if they accepted the offer on the table.

The union's claim is little more than a bargaining position. Much more rigid imperatives determine the size of the present one, they could only do so at the expense of the future of their own industry.

MR REAGAN'S CHINA TRIANGLE

The decision of the American government this week not to supply aircraft of an advanced type to Taiwan might have satisfied the Chinese if it had been made six months ago. Mr Holdridge's talks on Sino-American relations in Peking have shown that it is no longer a concession large enough to allay China's distrust of President Reagan. Further talks on arms sales to Taiwan and other aspects of the deteriorating relations between China and America are promised. Taiwan will remain the crux.

In Office President Reagan has not modified his attachment to Taiwan. At first he ignored the advice of the Pentagon and the CIA that the advanced aircraft were not necessary for Taiwan's defence. Representations by the Chinese Prime Minister, Mr Zhao Ziyang, and the Foreign Minister, Mr Huang Hua, do not appear to have made much impression. In press attacks the last few weeks the Chinese have made clear that their concern over Taiwan is quite strong enough for it seriously to damage relations with the United States, denying that American friendship in face of the Russian enemy was so valuable as to allow them to overlook American action over Taiwan.

China's distrust first arose with Mr Reagan's promise that "official" relations with Taiwan would be resumed under his presidency, despite the withdrawal of American recognition of Taiwan's government and the formal relations with Peking determined by President Carter. China's feelings grew to the

point where he could see no reason to deny any needs that Taiwan pressed upon him, even though an unyieldingly anti-Russian China had become a card in the global game. Taiwan and China evidently occupied different corners in his scheme of things.

This wartime and post-war American sentiment — in an older generation — has never weighed up the more deeply rooted emotions of Chinese nationalism. These are not a product of the last forty years, they go back at least to the cession of Taiwan following Japan's defeat of China in 1895, a far more powerful stimulant to Chinese nationalism than the opium wars earlier in the century. Since Mr. Deng's regime in China today is basically one that has turned away from revolutionary aims to return to the national aims of unity and strength that blossomed after 1949, it follows that Taiwan is the missing piece that matters most to China's unity, a piece that was snatched from them by chance and misfortune in 1949.

But Taiwan, of course, is a very different problem for China now than it was in 1949; it has become a property not easily subject to takeover. How can such a phenomenon of economic growth be absorbed by a mainland whose record in the last thirty years has been mostly turbulent and unpredictable? Mr. Deng is seized of such facts and knows that it will take time before the security and progress he is trying to bring about in China can make a marriage even seem tolerable for Taiwan.

Helping industry to plan ahead

From the Director General of the British Institute of Management

Sir, Your assessment of the 1982 economic prospects (leading article, January 2) presented a view with which management and industry would broadly concur. You state, however, that Government can do little to ensure that manufacturing companies which are improving productivity can continue to do so in a "more normal economic environment".

I do not consider that Government should be led to believe that it is incapable of offering assistance to industry whose

LETTERS TO THE EDITOR

Tax decision on North Sea oil

From Mr Aly Cluff

Sir, The Chancellor and the Secretary of State for Energy are shortly to consider their response to the representations on taxation recently submitted by those oil companies engaged in North Sea exploration and development. The form of that response is a matter of the greatest concern to our country and it is important that the issues are appreciated by the public; for, if there is to be no regard paid to the oil companies' case, there will surely be violent recrimination in the future and it is accordingly as well to establish the position now.

The problem, simply stated, is that political perception of the North Sea, to the extent that it exists at all, is confined to regarding it as a device to raise revenue rather than to create wealth. This perception has now led to the North Sea acquiring the dubious reputation of being the most heavily taxed oil province in the world barring Norway, which is in no sense comparable, having a population less than a tenth of ours.

The British North Sea fiscal system (apart from being virtually incomprehensible to so many) has ceased to acknowledge the profound uncertainties and the unparalleled commercial risks which attend the oil companies. The tax rate is currently suspended between the unreasonable and the irresponsible.

I believe that the Department of Energy is aware of this and of the discredited state of the oil companies' morale, but I fear that the Treasury will maintain its relentless pursuit of additional revenue. It is Sir, deeply depressing to be part of the fledgling British oil industry and to realise how much real wealth

financial and intellectual, it could generate for Britain if only Government would provide for the oil companies to profit in a degree consistent with the risks they take.

The odds against a commercial oil discovery being made in the North Sea must now have lengthened to approximately 14 to 1 and the size of such fields is diminishing all the time. The present tax rates (cumulatively amounting to around 90 per cent on profits, including a supplementary petroleum duty which is, in practice, a tax on revenue regardless of profit) would be unreasonable if the odds were practically even.

I urge the Government to reflect how much good for this country will result from a positive response to the proposals of the United Kingdom Offshore Operators' Association (UKOOA) and of the Association of British Independent Exploration Companies (BRINDEX) and to consider carefully the implications of sustaining the severe pressure under which the industry operates.

Being a truly international business the prospect increases daily that the lights of Aberdeen will be, if not actually extinguished, sadly dimmed in the coming years. The story of North Sea exploration is undeniably one of conspicuous success. However Ambrose Bierce once defined success as the one unpardonable sin against one's fellows. I am afraid the North Sea oil companies are being unjustly penalized for their achievements.

Yours sincerely,
ALY CLUFF,
Clova,
Lumsden,
Aberdeenshire.
January 3.

Social science in practice

From the Chairman of the Social Science Research Council

Sir, May I offer your readers a foretaste of what we shall be telling Lord Rothschild? We seek to support both fundamental and practical work. I myself may tend to philistine vulgarity — in my own work I actually try to be useful, but not all good empirical work is of that kind; by any means, and I can assure Professor MacRae (January 12) that much of our research is far removed from "plumbing".

Alas, by one of those ironies of public life, those journalists who are even more philistine than myself lampoon us for supporting, say, "useless" social anthropology, while the most distinguished members of the professoriate deplore our attempts to be useful.

Despite "guineas" from both sides, we will continue to encourage both sorts of research, because we are certain, as Professor MacRae points out, that they are mutually supportive.

Despite the work we support has in the past and will in the future be chosen for its excellence; we will encourage such work without fear or favour, or political interference. Our independence under our royal charter will be used with discretion and such wisdom as we can summon, but it will not be surrendered.

It is most apparent, perhaps, in our support of macro-economics, where all the main strands of research are vigorously present in our portfolio; both those bits which ministers may seem to like and those they dislike. No monoliths are built in Temple Avenue.

We do have to reject nearly 75 per cent of the applications that come to us, partly on grounds of timeliness or promise, partly because of shortage of cash. I keep an eye on the margin of rejection.

The last batch of near misses that I inspected contained some good stuff that we should have liked to have funded — but they were a mixed bag, not left wing nor right wing, not especially "useful", not especially "fundamental". Just good research.

Yours etc,
MICHAEL POSNER,
Social Science Research Council,
1 Temple Avenue, EC4.
January 12.

Outside Parliament

From Mr Peter Tatchell

Sir, Frank Field (January 9) accepts the legitimacy of extra-parliamentary action prior to the granting of the universal franchise. However, he apparently doubts that it is possible to cite equally impressive and justifiable cases of extra-parliamentarianism since the adult suffrage was won.

This is a surprising view from a parliamentary representative of the Labour movement. The recent history and finest hours of this movement have included struggles not only outside of Parliament, but sometimes even outside the law.

In response to threats of longer hours, wages cuts and lockouts in the mines the 1926 General Strike brought organised labour into direct confrontation against the elected government.

To defend impoverished tenants from onerous rates and rents, unjust legislation was defied by the Labour movement through extra-parliamentary action — and hopefully they always will be...

Only a decade ago, free and independent trade unionism was preserved at the cost of workers refusing to recognise the Industrial Relations Act. The AUEW incurred huge fines and five

dockers were imprisoned for contempt of court. Their release, and the defeat of the Act, was won through a campaign of non-compliance with the law and the threat of large-scale strikes.

The miners' strike for a living wage in 1974 even went so far as to bring about the eventual defeat of the Heath government. Far from condemning the strike, the movement applauded and took advantage of it to secure the election of a Labour government.

These extra-parliamentary actions were necessary because rulers ignored the voices of the poor and the powerless. They will probably be necessary again in the future to oppose elected, but tyrannical, governments and oppressive laws.

Labour has never believed that election by universal franchise gives any government a legislative carte blanche and automatic moral authority for its every action. Odious and draconian laws have always been challenged by the Labour movement through extra-parliamentary action — and hopefully they always will be...

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Included in this short-sighted slasher is the work of K. G. Stott, Britain's only willow expert, on harnessing biomass energy that grows on trees, with our national collection of only 300 varieties, compared with Sweden's 3,000. What is the use of training teenagers for scientific careers when the institutions that serve agriculture and horticulture, our most efficient industries, are destroyed by those who do not know enough to realize that when you cut out the growing points of trees you cripple them forever?

Lord Balmer's suggestion of breaking up teams working on new techniques of strawberry breeding, tissue culture, growth regulators, and microbiological safety in foods, all of which are more important in horticulture than microchips. It is folly to spend millions on methods of packing 64,000 "bits" of information on penny piece-sized chips when you sack the men who are finding the knowledge that can only go on a chip if

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Included in this short-s

Business News

THE TIMES THURSDAY JANUARY 14 1982

IMI
for building products, heat exchange,
fluid power, special-purpose valves,
general engineering, refined and
wrought metals.
IMI plc, Birmingham, England

UK hopes in £800m Saudi power plan

By Rupert Morris
The British electricity supply industry has won an important victory over American competition in Saudi Arabia by persuading the Saudis to adopt a system that will favour British manufacturers, bidding for a share of work worth £800m.

British Electricity International, the overseas consultancy arm of the Central Electricity Generating Board, is advising the Saudis in Riyadh, the capital, where a £40m supply system is planned, with much of the construction, electrical and control equipment hopefully to be supplied by British firms.

But the bigger prize is the national grid system which will cover 5,000 miles and cost about £800m to build between now and the year 2003.

The Saudis are working to a plan prepared by the American consultant Charles T. Main, but have rejected its advice in two significant areas.

The American system, based on gas turbines, would use voltages of either 220 kilovolts or 500kv. The system favoured in Europe is 400kv, and BEI's representations to the Saudis have been supported by the French, who are influential in the south, and the Germans, who have a foothold in Jeddah and the west. A 380kv system is now expected to be adopted nationally.

The Saudis are also moving away from reliance on gas turbines in favour of thermal steam plant, with big power stations cooled by sea water on both the Arabian Gulf and Red Sea coasts. BEI reckons the new system will save 70 million barrels of oil a year.

It has been a deliberate Saudi policy to have a multiplicity of foreign technical advice and BEI, which has a 50-man team in Riyadh, seems to have won increasing Saudi confidence.

BEI's success is all the more welcome as Britain has lost ground 10 years ago with the Saudis' decision to opt for American frequencies of 60 hertz, rather than the British 50 hertz — giving American manufacturers a head start.

The new electricity programme will provide opportunities for British firms to supply switchgear, cables, fittings, process plant and high technology control systems.

First step by a'Court to capture ACC

By Philip Robinson and Paul Maitland



Holmes a'Court: media ambitions

Australian financier Mr Robert Holmes a'Court last night took the first step towards making a takeover bid for the voting shares of Lord Grade's Associated Communications Corporation.

His proposals to surmount the major obstacle to gaining control of ACC — cutting back the 51 per cent held by ACC owner of Central Independent Television — were given to the Independent Broadcasting Authority late last night. The IBA said that a decision on the proposals, details of which were not known, would be made after they had been considered at a meeting of the Central Independent television board this morning.

The IBA said that Mr Holmes a'Court has given it notice that he was making what they described as an offer for ACC.

The IBA has already said that it will not agree to a non-British resident controlling a United Kingdom company.

ACC suspended its shares on the Stock Exchange on Monday pending an announcement concerning a change of control of the company. At a suspension price of 54p, the company was worth around £25m. Mr Holmes a'Court, who joined the board last month, took 3 per cent of the voting shares, spent most of last year picking up more than 50 per cent of ACC's non-voting stock, now worth £15m.

It is widely expected that his plan will mean the end of Lord Grade as £283,000 a year chairman of a company he built up over 25 years but which lost £8m in the first half of this financial year. Lord Grade can influence around 27 per cent of the voting shares and it is believed that he will sell Mr Holmes a'Court enough of these to give the Australian control, and then take a role as president of the company.

But the move by Mr Holmes a'Court over ACC is thought merely to be the first of many in the United Kingdom. Australian sources say he has identified between £100m and £200m of property

It is known that Mr Holmes a'Court has ambitions in the United Kingdom to be an influential newspaper and television owner.

Meanwhile, in a statement yesterday, ACC — which is embroiled in a legal battle with 16 of its non-voting institutional shareholders led by the Post Office pension fund who are objecting to the nearly £750,000 golden handshake to dismissed managing director Mr Jack Gill — said Friday's special shareholders' meeting to approve the payout has been adjourned.

The group has already given an undertaking to the Post Office that it would not pay over any money or sell Mr Gill any property.

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Lloyd's to pay for Gulf war ship's bill

A judge has ruled that Lloyd's of London underwriters are responsible for what may be a \$100m (£53.3m) insurance bill for some of the 70 ships held up in the Shatt-al-Arab waterway as a result of the Iran-Iraq war.

Mr Justice Staughton yesterday gave his decision on a dispute involving a German-owned ship, the Bambara. It is being used by underwriters in establishing guidelines to determine whether those writing war risk business or those writing blocking and trapping business will have to meet shipowners' claims.

The judge decided that there was a "restraint of prince", which means that vessels had been stopped from sailing in the Gulf since the date the Iran Guards prevented navigation in the waterway, but that this could not be considered a peril of "hostilities or warlike operations".

There was a difference between such a peril and the apprehension of it, the judge said.

Legal experts last night interpreted the decision as meaning that underwriters of war risk clauses are liable for claims, except where there are clauses, known as "long J exclusions", which specifically exclude the Gulf region from claims resulting from "restraint of prince".

Ships have been held up in the Gulf for over a year. They have a total insurance value of around £400m. Some claims have already been settled, but others have been awaiting the outcome of Justice Staughton's decision.

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Lords seek disclosure by banks

By George Clark, European Political Correspondent

A House of Lords committee yesterday criticized an EEC directive for failing to insist that all banks should be forced to publish financial statements showing their true profits and reserves, and asked the Government to press strongly for an amendment.

The Lords European Affairs Committee, under the chairmanship of Lord Pilkington, objected to a clause which would enable banks throughout the European Community to maintain undisclosed reserves in their accounts, and said the purpose of the directive will be

vitiating if this was left in. "Meaningful comparison would be severely hampered if neither the profitability nor the net worth of the bank were disclosed."

Another recommendation is that the directive should cover substantially all deposit-taking institutions, whether or not they are limited companies. That would put building societies and trustees savings banks under the same accounting regime as banks and licensed deposit-takers.

Institutions which grant credit without taking

deposits should be outside its scope, the committee says.

Strong arguments were put by the Accepting Houses Committee and the London Discount Market Association for allowing undisclosed reserves, but non-banking witnesses were overwhelming hostile.

The directive would allow banks and the institutions to create undisclosed reserves by undervaluing their loans and advances by up to 5 per cent.

Fourth report of the Lords select committee on European Communities: annual accounts of banks (HMSO, £5.35).

deposits to dispose of surplus stocks of coal from its uneconomic Kent collieries and to maintain its export drive.

Coal exports in this financial year almost doubled to nine million tonnes, Sir Derek Ezra, NCB chairman, said in Glasgow yesterday.

Much of this coal is sold at a loss — and the Belgian deal is almost certain to be a loss-maker — but the Board believes that export links taken now may become profitable later.

The first shipment will be

made next month under a contract between the NCB and the Carteck company of Belgium. Sea Containers, which arranged the deal, will be paid about £2m.

The company says much of

the extra expense of specially adapted containers is offset

by savings on handling charges, and it hopes to win further orders for the transport of other bulk commodities.

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BUSINESS BRIEFING

Now coal goes ro-ro

Coal is transported from Britain to Belgium for the first time using container ships instead of the more usual bulk carriers. Half a million tons of coking coal will be shipped over two years from Dover to Zeebrugge by the Sea Containers company for the National Coal Board.

They agreed that high wages, obsolete plant and the strong dollar were to blame for the American industry's problems rather than competition from steel imports and are likely to send a message to the American Government setting out the EEC case.

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FINANCIAL NEWS AND MARKET REPORTS

Ronson raises bid for Heron Motor

By Margarette Pagano

Heron Corporation, Mr Gerald Ronson's petrol stations to real estate empire, yesterday came a step closer to taking its publicly quoted Heron Motor Group back into private control, by raising its offer for the shares it does not own to 34p a share.

A Heron, in turn a subsidiary of Mr Ronson's Heron International, which now holds interests in natural resources and savings banks in the United States, is offering £4m for the outstanding 29.5 per cent stake held by private investors in HMG. Mr Ronson's first offer of 28p a share against net assets per share of 30p, was rejected just before Christmas. Commenting on the increased offer, Mr Ronson said: "County Bank, acting for the independent shareholders, managed to get more out of me than I intended." The terms of the scheme of arrangement have won support from County Bank and the independent directors and is expected to go through.

With the tidying up operation came news of changes in Heron's structure and management, shuffled after the reorganizations of the past year. Mr Harry Crossman, once chairman of BSG International, who was brought in as managing director for 18 months to steer the rationalization, has resigned, and will be replaced by Mr John Turner.

The new group, Heron Trading, will comprise HMG and Heron Suzuki, and the chairman will be Mr Peter Agy, who replaces Mr Ronson.

Results from HMG, due any day now, are expected to show an improvement after last year's loss. HMG, its units, will continue with BL dealership, but hopes also to bring in new franchises.

Mr Ronson says that after the consolidation, Heron Corporation, which employs 5,000 people in the UK, is now prepared to spend between £30m and £100m on buying a UK company with a Stock Exchange listing. Heron, in a strong liquid position with £15m on deposit, recently raised £75m through a syndicated unsecured loan, and in December secured a further £50m.

London Shop merger with Beaumont gets go-ahead

By Gareth Davis

Shareholders in London Shop Property Trust have given their approval to the proposed merger with the group's sister company, Beaumont Properties, despite strong opposition from a number of shareholders.

These included Mr Godfrey Bradman, chairman of the former tea plantation group Rosehaugh, which is the largest shareholder in the group, holding 21.4 per cent.

Rosehaugh has attempted to takeover London Shop, but its latest offer, worth 150p per London Shop share, was dependent on the board of London Shop recommending its acceptance and not proceeding with yesterday's

Casino acquisitions lift Reo Stakis

By Drew Johnston

Casinos and the growth in the off-sales drinks market have been responsible for a profits increase at Glasgow-based Reo Stakis Organisation, whose other main interest is hotels.

The pretax profit for the year to September was up from £5.9m to £4.6m. Sales were also up from £63m to £77.8m, with the biggest percentage increase coming from casinos where turnover rose from £7.7m to £13.5m.

Mr Loughrey, managing director, said the increase was the result of the contribution from the five casinos bought from Ladbrokes' last year for £4.4m. Located in Wines and spirits

sales rose from £26m to £32m. An increased dividend of 1.64p gross has been declared. This makes a total dividend for the year of 2.28p gross compared with 2p gross last year.

Asset leasing also grew substantially in the year from £655,000 to £1.07m.

Income from leasing has been set off against other interest costs. The company says it expects to see improvements in 1982. Profits in the first quarter are ahead of last year, partly as a result of improvements in hotel bookings in the autumn.

Banks may lend to ICCO

Brazilian banks are prepared to lend the International Cocoa Organisation between \$70m (£57m) and \$120m (£64m) to support the world cocoa price. The move is unprecedented in the history of the ICCO and an unusual instance of primary producers helping each other.

But the loan will be on commercial terms. Market sources believe that the three banks, led by the state-owned Banco do Brasil, want to charge 1½ per cent over the London interbank offered rate, with a one-year grace period for interest payments, for a four-year loan.

The money is needed by the ICCO's buffer stock fund, which has been steadily buying to offset a projected surplus of production over demand. The buffer stock had about \$175m, enough to buy some 90,000 tonnes.

The size of the Brazilian loan may depend on the willingness of the ICCO to increase the levy it charges on cocoa producers.

The present levy of one cent a pound is expected to raise \$13.2m during the 1981-82 season. The banks are likely to ask at an ICCO meeting on January 25 for the levy to be two or three cents a pound.

An increase may be necessary if the ICCO is to meet interest payments on the loan.

Deadline nears for North Kalgurli bid

British shareholders who together hold up to 40 per cent of North Kalgurli Mines, the Australian gold mining company, for which Metals Exploration, another Australian mining company, is making a partial bid, have only until Monday to decide whether to accept the Metalsex offer, which is being strongly opposed by the North Kalgurli board.

Metalsex has charged that the North Kalgurli board has been slow to develop the potential of its Fimiston gold mine along Kalgoorlie's famous Golden Mile. Mr Fletcher also claims that North Kalgurli will need money — for example on its indirect stake in the Honey moon uranium project — which would have been better deployed at Fimiston.

But in the rejection document sent to shareholders on Tuesday, North Kalgurli argues that the shortage of skilled manpower has prevented it from reaching milling capacity of 350,000 tonnes of ore a year. Mr Fletcher expects mill throughput in the current financial year to be 100,000 tonnes.

Stock markets

Rumours help shipping sector

Shares of Ocean Transport & Trading leapt 9p to 117p after hours last night, amid rumours that it was about to sell its 58 per cent stake in the Straits Steamship Co (Singapore).

Meanwhile P&OD rose 6p to 139p amid continuing rumours of a possible Far Eastern bid.

Elsewhere, bid situations continued to dominate interest in a market where the first objective was to beat the national train drivers' strike. Nevertheless, attendance was reported as near normal and overall turnover was able to register a slight increase.

Despite the possibility of a miners' strike adding to the present situation, the FT Index was undeterred, closing 2.7 up at 527.3.

RTZ continued to make good progress in its bid for Thos W Ward, which remained unchanged at 231p. Brokers Hoare Govett were reported to have picked up between 2m and 3m extra shares yesterday, taking RTZ's stake to almost 38 per cent of the equity, including 3.14 per cent acceptances already received.

However, Mr Peter Frost, chairman of Ward, still regards the bid as inadequate and will be writing to shareholders shortly to tell them why he thinks they should reject the bid.

In chemicals, the doubled profits from Allied Colloids

Latest results

Company	Sales £m	Profits £m	Earnings per share	Div pence	Pay date	Year's total
Allied Colloids (I)	37.3(19.65)	4.02(1.98)	(—)	0.70(0.64)	25/3	(2.73)
Boulton & Paul (I)	41.03(39.67)	0.35(1.24)	(—)	(1)	—	(—)
Centrefway Ltd (I)	9.15(11.69)	0.03(0.09)	(—)	(—)	—	(—)
Consortia Trust (I)	9.14(8.8)	0.05(0.05)(0.053)	27/1(19.84)	2.38(3.5)	3/3	2.38(3.5)
Dunlop (I)	25.0(25.8)	0.52(0.52)	(—)	0.57(0.56)	1/2	(—)
Gresham Inv. (I)	1.44(1.54)	0.25(0.39)	3.32(4.97)	12.1(9.8)	2/3	21.1(28.3)
M & G Dual Test. (F)	(—)	1.73(1.5)	(—)	12.1(9.8)	1/2	14.1(13.3)
Reo Stakis (F)	70.3(24.0)	38.4(26.5)	(—)	1.2(1.1)	15/2	1.2(1.1)
Reo Stakis (F)	77.7(63.4)	4.65(3.93)	6.45(5.5)	1.1(1)	14/4	1.6(1.4)

Dividends in this table are shown net of tax on per share. Elsewhere in Business News dividends are not a=Loss. b=Adjusted.

Commodities

COPPER was steady. Afternoon grade, cast, £30.50-34.00. Three months, £38.1-31.50. Sales: 2851-52. Three months, £37.77-7.75. Standard, £30.50-34.00. Three months, £38.1-31.50. Sales: 2851-52. Three months, £35.50-16.00. Three months, £35.50-16.00.

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COFFEE was steady. Afternoon standard, £2.20-2.25. Sales: 2852

BY THE FINANCIAL EDITOR

Building societies used as banks

Building societies had a rough time in 1981 with net receipts falling by £342m to £3,474m — the first drop since 1978, which followed a record year in 1977. Clearly the competition from National Savings and the banks is beginning to bite but there is little evidence of any agreement between the societies on what form retaliation should take — it all.

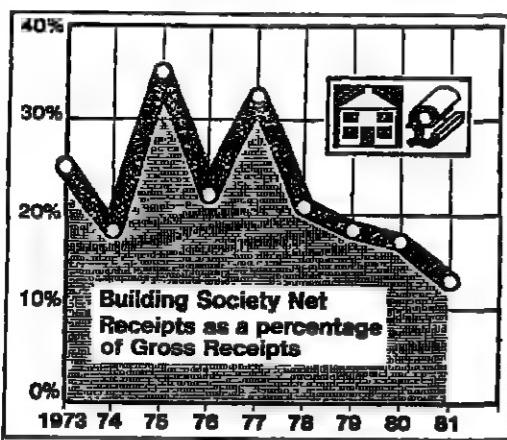
And although the societies cheerfully reported lending at record levels, the figures overall should be ringing alarm bells among the board room decision-makers.

Gross receipts for 1981 at £26,441 million were the highest yet, a rise of 19 per cent on the previous year's total of £22,183 million. Withdrawals, however, increased even faster, up 25 per cent at £22,967 million, precipitating the drop of nearly £350 million in net receipts.

This tendency of building society investors to use their accounts increasingly like a bank account has worrying consequences.

Net receipts as a percentage of the industry's gross receipts have been declining rapidly since 1977 when they hit nearly 33 per cent. Since then they have slid alarmingly to the 1981 figure of only 13 per cent.

This faster turnover of depositors' funds inevitably pushes up the societies' expenses, and margins at some societies must be dangerously



low. If the average percentage of net receipts to gross receipts is only 13 per cent, some societies must, by definition, be turning over their deposits faster than the average and have an even lower percentage of retained deposits.

One answer for the societies is to follow Nationwide's lead and venture into the local authority bond markets for wholesale money. Nationwide believes the cost of the £30 million it raised last year through its negotiable bond issue was somewhere between the cost of ordinary account money and term shares.

Since most societies are having to pay at least one per cent over the recommended ordinary share rate of 9.75 per cent on some 70 per cent of new deposits, wholesale money looks relatively cheap.

However, even Nationwide seems reluctant to pursue this route. It has been restricted to raising only £5m a month through the local authority market, and its new chief general manager, Cyril English, is not as keen as his predecessor, Leonard Williams, on raising money in this way.

He appears to have turned his back on other money market options on the grounds that the society would be raising money from its competitors, the banks. It is doubtful whether the banks will suffer the same squeamishness when it comes to persuading erstwhile building society customers, now locked into a bank home loan, to part with their savings.

Polish debt

Divisive tactics

The military Government in Poland has been attempting to drive a wedge between the European and American banks who are owed some \$17,000m. Since Christmas, the Poles have been repaying perhaps \$200m of the \$500m in interest due for 1981, to British, West German and other European banks. But the United States banks, it appears, have not been paid a penny because of

President Reagan's hard-line stance. There are clearly great differences of opinion between United States and European banks on the thorny question of signing an agreement to reschedule the \$2.4 billion debt for 1981. These disagreements largely reflect governmental differences.

But the Poles might be backing a loser by trying to split the banks. First, most of the loans have a clause inserted which does not permit favoured treatment for certain banks. So the American banks can exert pressure on their European partners by invoking this.

Second, syndicated loans are led by an agent bank which in some cases are British. Any repayment of interest to a British or German bank must be shared out pro rata, so any United States banks in that syndicate will receive its share.

Racial

Turning Decca to account

It has not taken long for Racial to dispel fears that it would be a slow process putting Decca's house in order. Thanks in part to loss elimination (the sale of the colour television business in particular) and strong growth on the capital good side, Decca's contribution to pre-tax profits in the first half was £2.7m against losses of £5.2m last

year. Marine radar's losses have been reduced from £6.6m for the whole of the previous year to just over £2m and with further rationalisation across the business still to come, Decca should be contributing upwards of £12m for the year, with volume on the capital goods side likely to be up by a half for the whole year.

Within the 45 per cent jump in pre-tax profits to a record £38.4m, the only division blotting the copybook remains data communications where the over-reaction to increased competition has knocked margins well below their historic 26 per cent level, leading to what Racial — in its usual taciturn manner — calls a "substantial" hole in profits. Corrective action has been taken which should lead to a modest second-half improvement.

Hidden reserves

Lords' committee favours disclosure

The case against banks keeping hidden reserves has been greatly strengthened by the House of Lords' committee's examination of the proposed EEC directive on banks' accounts. The directive as it stood would have allowed all-banks to keep a form of undisclosed reserve through the writing-down of loans and advances up to a maximum of 5 per cent.

For full-disclosure banks which took advantage of this, it would of course have been a huge step backwards, though for those most secret of all, Schedule 3 banks, such as the accepting houses, the directive would have been a small advance in disclosure requirements.

As it is the Lords' committee has come down firmly against banks being allowed to keep hidden reserves at all. The committee was unconvinced at the old argument adduced by the banks — that depositors' confidence might suffer in some circumstances were the true position on capital and reserves known. The Jenkins Committee in 1962 accepted this on the basis that the risk of a loss of confidence, however small, outweighed the advantages of disclosure. But the Lords committee feels that enough has changed in the last 20 years to swing the balance.

It is understandable that the users of accounts should want the Schedule 3 banks to move to full disclosure and there are few surprises among those who gave evidence against hidden reserves to the committee. But what makes the committee's recommendations so credible is that the committee itself comprises several eminent bankers including a former governor, former deputy-governor and an adviser to the Bank of England.

Business Diary: Marking time

French plums

It is the talk of le tout Paris in the French business world: Who will be getting the plum jobs that will come up when seven industrial groups and 36 banks finally fall under the control of the French State? The government was due to announce the appointments this week but with the constitutional council now not expected to issue its ruling on the legality of the nationalization before January 18, the suspense will last a further week.

Everybody has his or her own idea of who will get the new jobs. Some appointments are virtually certain, such as that of Jean-Yves Haberer, Treasury Director at the finance ministry, as the new head of La Banque de Paris et des Pays-Bas (Paribas), but there could also be some pretty controversial nominations.

A Communist trade unionist, Georges Vaillot is tipped as a possible chairman of one of the two steel groups, Sacilor and Usinor, while a senior Unionist from the radical left, CFDT Michel Rolant, is being mentioned as a possible future chairman of Credit Commercial de France. That would only confirm the fears of its chairman, Jean-Maxime Leveque, who has been one of the most ardent

Economic relations between the United States, the European Community and Japan are worse today than at any time since the war. The three-cornered partnership which has been the mainstay of the international open trade system for 30 years is under severe strain.

While much of the world faces its third year of recession and lengthening dole queues, the Japanese export machine grinds on, pouring out cars, cameras, video cassette recorders, numerically-controlled machine tools and much more. Like the sorcerer's apprentice, the Japanese Government looks on helplessly, unable to stop what it has started. And Japan's trade surpluses with the West go on piling up inexorably.

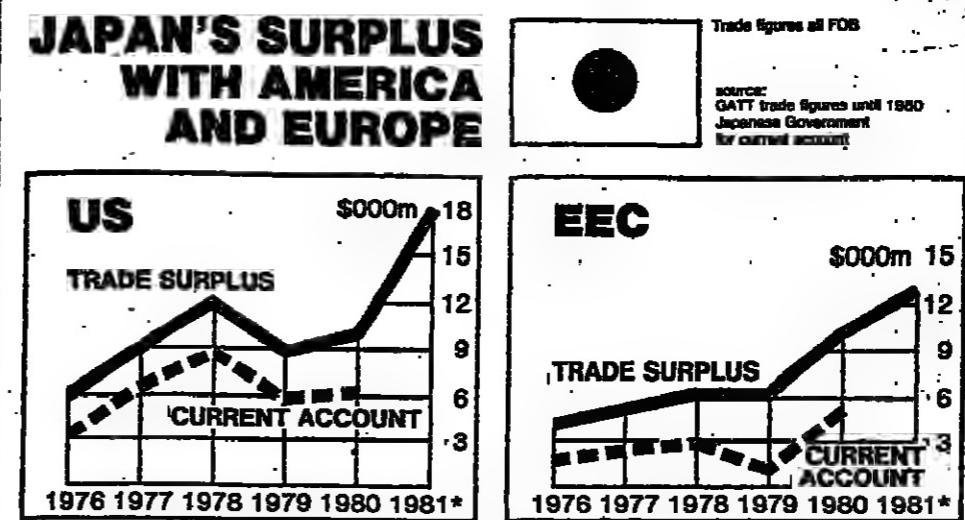
Nobody expects that the meeting tomorrow and on Saturday at Key Biscayne, Florida, between top trade representatives of the US, the EEC and Japan, will produce an instant solution to these problems. But neither can there be much doubt that unless the situation is brought under control soon, the dangers of sliding back into protectionism are high.

Indeed, the only question that the pessimists are debating is whether America or the EEC will be first to impose formal quotas on imports from Japan. If one of the two big Western powers were to take such action, the other would quickly follow.

Some trade officials believe that the crunch could come this spring as the recession in the United States takes its toll. In some areas of trade — most notably cars — Japanese exports to America and the Community are already subject to "voluntary" restraint agreements. Formal quotas on imports from Japan would represent a significant escalation of trade protection.

Some estimates suggest that already as much as 70 per cent of American imports from Japan are subject to some type of voluntary agreement or other kinds of informal understanding to check their growth. The United States Congress is preparing a new set of proposals giving the White House unprecedented auth-

JAPAN'S SURPLUS WITH AMERICA AND EUROPE



ority to impose quotas on imports, retaliate against countries which restrict their imports of American products, and set new countervailing duties to protect American companies from what is deemed to be unfair foreign competition.

Mr David MacDonald,

deputy United States trade representative recently described his country's trade relations with Japan as having reached a dangerous point.

For the EEC, Mr Wilhelm Haferkamp, Brussels Commissioner for External Relations, has warned that the Community has reached the limit of tolerance on the deficit with Japan.

Some estimates suggest that the Japanese surplus with the United States last year was close to \$18,000m compared with \$10,000m in 1980; and it is likely to rise further this year.

The surplus with the EEC last year is thought to have been somewhere between \$13,000m and \$14,000m, compared with \$10,000m in 1980.

These figures are offset to some extent by Japan's shortfall with the West on its trade in services — transport, insurance, tourism and so forth. But the overall current balance still shows a mounting surplus in Japan's favour and that the trend seems certain to continue whatever concessions that the country makes to its competitors.

The Organization for Economic Cooperation and Development recently predicted that Japan's surplus with the rest of the world would rise by nearly two-thirds this year, to a massive \$35,000m (on a balance-of-payments basis).

Many Japanese government officials are privately resigned to seeing new controls slapped on their trade with Europe and America.

Haferkamp and Sir Roy Deacon, Director General of External Relations. Leading the American delegation will be Mr William Brock, the Cabinet-level United States Trade Representative accompanied by Mr Robert Hornsby, Assistant Secretary of State for Business and Economic Affairs; and Mr Lionel Oliver, Under Secretary of Commerce, who heads the United States International Trade Administration.

The concern of Japanese officials that they will find themselves isolated is probably misplaced. While the problem of Japan's surpluses is viewed as very grave, there are also increasingly serious questions to be answered about America's trade relations with both the Community and Canada. The anti-dumping lawsuits being taken out by American companies against European steel exporters have served to underline the difficulties now developing in Transatlantic trade.

But Japanese officials in the Ministry of Trade and Industry admit that these measures will do little to reduce the surplus. "We are making the concessions because these are demanded of us by Europe," said the United States' senior MTI official.

It is difficult to see how the Floridian talks can do anything about that.

Reporters: Bailey Morris (Washington), Peter Norman (Brussels), Peter Hazelhurst (Tokyo).

Economic notebook

Avoiding the interest rate trap

Nothing is more dangerous in this world than to travel using out of date maps. Yet that is what the Chancellor risks doing as he prepares for this year's Budget. He has half moved towards giving the exchange rate a key role in determining interest rates. Yet at the same time he is insisting on the domestic goal of cutting back public borrowing as a way of bringing interest rates down.

This belief that a low borrowing requirement is the source of low interest rates at home is, in any case, of only limited validity, even if the Government is solely concerned with domestic money supply. It loses all credibility once the exchange rate becomes a target of government policy. So if the Chancellor promises that a tough Budget opens the way to lower interest rates he will be making a promise he cannot deliver, just as he could not deliver on the same promise last year.

If the exchange rate is allowed to float, the Government uses interest rates to try to control the money supply. The total growth in the amount of money in those circumstances is made

up of two things. These are the extra money which has to be printed to finance the Government's deficit and the extra money printed by the banks to lend to their private customers.

Even the most ardent supporters of the need to cut Budget deficits long ago said off the suggestion that the Budget deficit itself went straight into increasing the money supply. Only that part of it which cannot be financed by selling Government long-dated stocks is actually an addition to the money supply.

In many periods over the past decade, the Government has actually sold more debt in this way than it has needed to borrow to cover its deficit. When this overfunding occurs the Government's contribution to the money supply is actually negative.

It is a simple matter of arithmetic that if the Government wants to reduce borrowing from the banks it can either cut its deficit or finance it by selling more long-dated stock.

The only way it can sell more stock is to raise the interest which it pays (unless it uses unconventional instruments, like index-linked

gilts). That leaves a cut in the deficit as the only option which does not push up interest rates.

One obvious flaw in this, as becomes very apparent over the past two years, is that the private sector's borrowing is sharply affected by what the public sector does.

If companies have to pay for their electricity they are likely to borrow more from the bank to do so. Thus measures aimed at cutting the public deficit to help hold down the money supply fail to have the desired effect.

There is less public borrowing but more private borrowing.

The same kind of practical problems occur when the Government raises interest rates. Companies faced with higher interest rate charges just add them on to what they have borrowed. Thus increases in interest rates designed to cut the growth of the money supply can for long periods actually boost monetary growth.

These are the practical problems involved in trying to hit a money supply target. But in the world where only domestic considerations apply they leave the Government's case.

One is if interest rates fall sharply in the United States. In those circumstances the British Government might find itself forced to keep interest rates high.

The second is if an expansionary Budget is taken to get the economy moving so quickly that the balance of payments moves into deficit, provoking a run on the pound.

Where does the balance of risks lie? If interest rates do fall in America and ours have to stay high for domestic reasons we will still have had our expansionary Budget; whereas if the Budget is rough and American interest rates stay high we will have tight fiscal policy and high interest rates.

Surely, as long as there is serious doubt, we ought to go for the policy which gives more assurance of recovery and cut taxes this Spring.

David Blake

Base Lending Rates

ABN Bank	14%
Barclays	14%
BCI	14%
Consolidated Crds	14%
C. Hoare & Co	14%
Hillhouse	14%
Midland Bank	14%
Nat Westminster	14%
TSB	14%
Williams & Glyn's	14%

* 7 day deposit on sums of up to £10,000, 13% over £10,000 to 15% over £20,000.

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The Over-the-Counter Market

High	Low	Change	Price Chg	Chg %	Grass	Vid	P/F	Fully

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Stock Exchange Prices

Firm tone

ACCOUNT DAYS: Dealings Began, Jan 11. Dealines End Jan 22. & Contango Day, Jan 25. Settlement Day, Feb 1.

§ Forward bargaining are permitted on two previous days

BELL'S

SCOTCH WHISKY

BELL'S

Rex Australian coach defends his tactics

1981/82		Gross		Div		Yld		P/E		Gross		Div		Yld		P/E		Gross		Div		Yld		P/E					
High	Low	Company	Price	Chg	pence	%	P/E	High	Low	Company	Price	Chg	pence	%	P/E	High	Low	Company	Price	Chg	pence	%	P/E						
BRITISH FUNDS																													
SHOR	TS	Treas	30	-1682	560	+1.4	15.26	104	71	A&H	88	-1.0	6.7	-1.6	6.9	91	58	Meyer M. L.	68	-1.0	4.5	-1.0	15.0	1.4	9.1	1.0	19.26	5.8	46
28	21	Treas	14	-1682	14.96	-1.0	14.96	104	71	A&H Electronics	116	-1.0	9.7	-1.0	7.1	92	41	Tate & Lyle	304	-1.0	19.0	-1.0	19.0	4.5	9.4	1.0	19.26	5.8	46
28	21	Treas	14	-1682	14.96	-1.0	14.96	104	71	AGB Research	148	-1.0	12.0	-1.0	7.1	93	42	Telephonics Corp	320	-1.0	14.5	-1.0	15.2	1.0	14.5	1.0	19.26	5.8	46
28	21	Treas	14	-1682	14.96	-1.0	14.96	104	71	Albion Prod	148	-1.0	12.0	-1.0	7.1	94	43	Thomson Corp	515	-1.0	19.0	-1.0	19.0	1.0	14.5	1.0	19.26	5.8	46
28	21	Treas	14	-1682	14.96	-1.0	14.96	104	71	Albion Ridge	184	-1.0	12.0	-1.0	7.1	95	44	Thorn EMI Ltd	320	-1.0	20.5	-1.0	13.4	1.0	14.5	1.0	19.26	5.8	46
28	21	Treas	14	-1682	14.96	-1.0	14.96	104	71	Alcorn Bros.	116	-1.0	12.0	-1.0	7.1	96	45	Thurso Cont	120	-1.0	20.0	-1.0	12.0	1.0	14.5	1.0	19.26	5.8	46
28	21	Treas	14	-1682	14.96	-1.0	14.96	104	71	Arrowhead Eng	125	-1.0	12.0	-1.0	7.1	97	46	Tilbury Products	304	-1.0	19.0	-1.0	14.5	1.0	14.5	1.0	19.26	5.8	46
28	21	Treas	14	-1682	14.96	-1.0	14.96	104	71	Arrowhead Eng	125	-1.0	12.0	-1.0	7.1	98	47	Titagar Jute	120	-1.0	16.0	-1.0	8.0	1.0	14.5	1.0	19.26	5.8	46
28	21	Treas	14	-1682	14.96	-1.0	14.96	104	71	Artic Prod	148	-1.0	12.0	-1.0	7.1	99	48	Tomkins F. H.	120	-1.0	16.0	-1.0	8.0	1.0	14.5	1.0	19.26	5.8	46
28	21	Treas	14	-1682	14.96	-1.0	14.96	104	71	Artic Prod	148	-1.0	12.0	-1.0	7.1	100	49	Trotter Woodruff	320	-1.0	14.5	-1.0	15.2	1.0	14.5	1.0	19.26	5.8	46
28	21	Treas	14	-1682	14.96	-1.0	14.96	104	71	Artic Prod	148	-1.0	12.0	-1.0	7.1	101	50	Turner Woodruff	320	-1.0	14.5	-1.0	15.2	1.0	14.5	1.0	19.26	5.8	46
28	21	Treas	14	-1682	14.96	-1.0	14.96	104	71	Artic Prod	148	-1.0	12.0	-1.0	7.1	102	51	Turner Woodruff	320	-1.0	14.5	-1.0	15.2	1.0	14.5	1.0	19.26	5.8	46
28	21	Treas	14	-1682	14.96	-1.0	14.96	104	71	Artic Prod	148	-1.0	12.0	-1.0	7.1	103	52	Turner Woodruff	320	-1.0	14.5	-1.0	15.2	1.0	14.5	1.0	19.26	5.8	46
28	21	Treas	14	-1682	14.96	-1.0	14.96	104	71	Artic Prod	148	-1.0	12.0	-1.0	7.1	104	53	Turner Woodruff	320	-1.0	14.5	-1.0	15.2	1.0	14.5	1.0	19.26	5.8	46
28	21	Treas	14	-1682	14.96	-1.0	14.96	104	71	Artic Prod	148	-1.0	12.0	-1.0	7.1	105	54	Turner Woodruff	320	-1.0	14.5	-1.0	15.2	1.0	14.5	1.0	19.26	5.8	46
28	21	Treas	14	-1682	14.96	-1.0	14.96	104	71	Artic Prod	148	-1.0	12.0	-1.0	7.1	106	55	Turner Woodruff	320	-1.0	14.5	-1.0	15.2	1.0	14.5	1.0	19.26	5.8	46
28	21	Treas	14	-1682	14.96	-1.0	14.96	104	71	Artic Prod	148	-1.0	12.0	-1.0	7.1	107	56	Turner Woodruff	320	-1.0	14.5	-1.0	15.2	1.0	14.5	1.0	19.26	5.8	46
28	21	Treas	14	-1682	14.96	-1.0	14.96	104	71	Artic Prod	148	-1.0	12.0	-1.0	7.1	108	57	Turner Woodruff	320	-1.0	14.5	-1.0	15.2	1.0	14.5	1.0	19.26	5.8	46
28	21	Treas	14	-1682	14.96	-1.0	14.96	104	71	Artic Prod	148	-1.0	12.0	-1.0	7.1	109	58	Turner Woodruff	320	-1.0	14.5	-1.0	15.2	1.0	14.5	1.0	19.26	5.8	46
28	21	Treas	14	-1682	14.96	-1.0	14.96	104	71	Artic Prod	148	-1.0	12.0	-1.0	7.1	110	59	Turner Woodruff	320	-1.0	14.5	-1.0	15.2	1.0	14.5	1.0	19.26	5.8	46
28	21	Treas	14	-1682	14.96	-1.0	14.96	104	71	Artic Prod	148	-1.0	12.0	-1.0	7.1	111	60	Turner Woodruff	320	-1.0	14.5	-1.0	15.2	1.0	14.5	1.0	19.26	5.8	46
28	21	Treas	14	-1682	14.96	-1.0	14.96	104	71	Artic Prod	148	-1.0	12.0	-1.0	7.1	112	61	Turner Woodruff	320	-1.0	14.5	-1.0	15.2	1.0	14.5	1.0	19.26	5.8	46
28	21	Treas	14	-1682	14.96	-1.0	14.96	104	71	Artic Prod	148	-1.0	12.0	-1.0	7.1	113	62	Turner Woodruff	320	-1.0	14.5	-1.0	15.2	1.0	14.5	1.0	19.26	5.8	46
28	21	Treas	14	-1682	14.96	-1.0	14.96	104	71	Artic Prod	148	-1.0	12.0	-1.0	7.1	114	63	Turner Woodruff	320	-1.0	14.5	-1.0	15.2	1.0	14.5	1.0	19.26	5.8	46
28	21	Treas	14	-1682	14.96	-1.0	14.96	104	71	Artic Prod	148	-1.0	12.0	-1.0	7.1	115	64	Turner Woodruff	320	-1.0	14.5	-1.0	15.2	1.0	14.5	1.0	19.26	5.8	46
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28	21	Treas	14	-1682	14.96	-1.0	14.96	104	71	Artic Prod	148	-1.0	12.0	-1.0	7.1	118	67	Turner Woodruff	320	-1.0	14.5	-1.0	15.2	1.0					

Rugby Union

Australian coach defends his tactics

Sydney, Jan 13.—A pale but firm Australian coach, Don Templeton, defended his tactics and morale on the Australian tour of Britain when the team returned here today. Mr Templeton said at a press conference: "I accept the blame for whatever you want to lay at my feet."

The opposition in Britain, the coach said, played mainly not to lose rather than to win: "We found the opposition playing and waiting for us to make errors. We were put under enormous pressure and found we couldn't run ourselves out of trouble. But we scored 63 tries in 23 matches, conceding nine despite bad weather, sloppy grounds and new rules interpretation."

The team manager, Sir Nicholas Shadie, denied that the Australian captain, Tony Shaw, had learned of his dropping from the captaincy for the final international from the British press. Sir Nicholas' full report of team dynamics and jerseys between players from different states.

Asked about a story published in Australia by Sydney journalist, David Lord, on team unhappy selection disagreements and lack of morale, Sir Nicholas said: "How could Sir Lord know? He was on the committee with a group of tourists for many of our games."

Sir Nicholas said some of the older players like John Hipwell probably would return from tour but he was not suggesting or making transfers to the League in dissatisfaction at selection or management of the Wallaby tour.

It is believed North Sydney have signed the Manly player, Mitchell Cox and others will be approached when they have rested.

Mr Templeton said the injury to Michael O'Connor and a last ditch before the clash with Scotland had jarred team balance. "The Michael Hawker went on the casualty list to compound our problems."

He said the harsher treatment was to overcome any feelings the Wallabies inside backs and tactics employed against the Australian running style—AP.

If Mr Templeton's observations about British rugby sound more serious than they are, then consider Peter West's words: "I believe the Wallabies have had a rough ride in their own press. Mr Templeton may have felt on the defensive."

He need not worry unduly. As North Sydney and Sir Nicholas' team as ever toured these islands and I dare say it would be the first to stress how much with Shaw, is owed to the support of senior players such as Neil Loane, Hipwell, Greg Corneil and Paul McLean. As I understand it, Tony Shaw's original these particular words were attributed to Mickey Steele-Edger—as ambassadors the Wallabies did themselves and their country proud.

Dublin international postponed a week

By Peter West
Rugby Correspondent

The adverse weather, especially in Wales, has caused the international between Ireland and Wales, due to have been played in Edinburgh this morning, to be postponed for a week. Tickets for the original date remain valid. It is 50 years since a big match was last called off at Lansdowne Road.

A joint statement from the Irish and Welsh Rugby Unions said that special account had been taken of the travel difficulties the Welsh team faced and supporters would have seemed. Apart from that, there was no assurance that the Lansdowne Road pitch would have become playable in time.

The WRU coaching organizer, John Davies, had the postponement as a blessing in disguise. "Our players have hardly had a game in weeks," he said. "I doubt whether they could have been genuinely fit enough to play an international."

As things stand, both teams must be fit if they get to any match practice before January 23. They are hoping on both sides of the water to assemble their squads for the used pre-internationals on Sunday. It seems highly improbable that the Welsh on that occasion will be able to train outdoors.

A by-product of the postponement involves concern in Wales about the third round ties in the Cup, sponsored by Schreiber, due on Saturday week. Brian Kempson, assistant secretary of the Welsh, said yesterday that they would have to find a new date, or at least for those clubs whose players may be in Dublin that day. A further statement is expected, but meanwhile Mr Kempson takes the view that the Union should deal with one crisis at a time. There are several second round cup ties still un-

settled. Bob Hornby's strained ankle

Rugby League

Carleton rejects Wigan

By Keith Macklin

John Carleton, the England Rugby Union winger, has again rejected a tempting offer to turn professional and play for Wigan, which he has just thrown from the Wigan ground at Central Park, and Wigan have made a £40,000 bid to sign the winger. The terms appear to have been a £20,000 down payment on a future fee of £20,000 phased over several seasons, conditional on no doubt on Carleton's regular appearances.

Despite three attractive offers, Carleton has again chosen to remain his amateur status and continue his successful career with England. Two years ago he was the subject of a bid from Widnes, which he turned down, and the region of £25,000. Wigan and Widnes are not the only clubs to be showing interest in Carleton, whose speed, toughness and cry-

scoring flair make him a natural candidate for Rugby League.

Hull Kingston Rovers, one of the big-spending Humber-side clubs, are also in the chase, and have offered a £25,000 bid to Carleton's rejection of the Wigan offer. St Helens are also watching on the sidelines, although they have just spent £37,000 on a young forward from Kilkenny, Gary Mooney.

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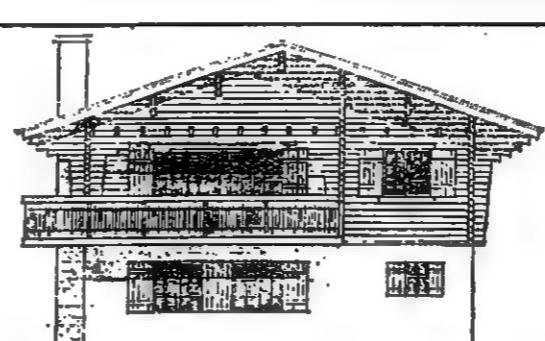
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Following a re-organisation of the Council's top administration and management (coinciding with the retirement in the Spring of the present Borough Secretary, Mr. I. C. Alexander) the Council is seeking a person of proven ability, qualification and experience as their new

Director of Administration & Legal Services

A salary of not less than £22,500 (excluding allowances) is offered.

This is a new Directorate (one of six) with responsibility for the Council's legal, administrative, committee, personnel and common services. The Directors will form the top management team, each with wide spheres of responsibility, who, with the Chief Executive will provide an efficient organisation for the effective implementation of the Council's policy. Persons able to demonstrate a successful record of achievement at top management level with extensive relevant experience are invited to apply for further particulars and application form from the Chief Executive, London Borough of Redbridge, Town Hall, High Road, Ilford, Essex, to be returned by 29 January.



We are a Finnish log house factory with 15 years experience in the manufacture of log-built dwelling houses, Holiday cabins, clubhouses, coffee shops and restaurants are also part of our range. About 90% of what we produce is for the export market. The chief countries to which we export are the Federal Republic of Germany, Belgium, Austria, France and Norway.

Our sales are based on a network of agents in various countries. In order to strengthen our share of the British market, we are now looking for a

REPRESENTATIVE

with sound experience of wooden and preferably also log-house construction.

We shall gladly forward a brochure with further details on request.

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log house factory SF-14930 Lievenpohja

FINLAND

Tel: +358 34 561212. Telex 22473 chale sf

DEVON AND CORNWALL POLICE AUTHORITY

APPOINTMENT OF CHIEF CONSTABLE

Applications are invited from officers holding the substantive rank of at least Deputy Chief Constable or Deputy Assistant Commissioner for the post of Chief Constable of the Devon and Cornwall Constabulary, which will become vacant on 1st May, 1982.

Application forms and further particulars may be obtained from the Clerk, Devon and Cornwall Police Authority, County Hall, Exeter, Devon EX4 1JG.

Completed applications must be returned by 2nd February, 1982.

FASHION BUYER FOR SIMPSON (PICCADILLY) LTD.

Polys experienced in all aspects of retail buying for ready-to-wear and accessories for women and especially coats. Positions of employment are available in purchasing, design, fashion, advertising, public relations, and administration. Applications are invited from persons who will also be able to work with others. A background in campaigning or research might be useful. For details and an application form write or telephone:

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London W1.
01-584 5243

PART TIME ACCOUNTANT

For Community Traders in Oxford Circus. Salary £35-40 for one days' work per week. Permanent position. Flexible hours. Person must be qualified or have four years experience.

Please telephone
01-734 5702

Recruitment opportunities is featured every THURSDAY

for details please ring
01-278 9161

Chairmen

SEVERN-TRENT, NORTHUMBRIAN & WESSEX
WATER AUTHORITIES

The Secretary of State for the Environment will be appointing Chairmen for these Water Authorities to take over from the existing Chairmen when their terms of office expire in September 1982. Annual expenditure in Severn-Trent is around £400m and in each of the other two exceeds £100m.

OVERALL POLICY AND STRATEGY are laid down by the members of the Authority headed by the Chairman, one of whose principal tasks is to ensure that the essential services provided to the community are cost-effective and seen to be so. Under the direction of the Authority, day-to-day management is in the hands of a full-time Chief Executive and his team.

DEMONSTRABLE MANAGEMENT SKILLS and the proven ability to perform a representative role involving the public, industry, agriculture and government are essential requirements. These attributes will probably have been acquired in a senior role within a large organisation, public or private. Preference will be given to candidates who know the area well.

THE APPOINTMENTS will be for 3 to 5 years. The salary for the Severn-Trent Chairmanship is £24,980 and for the other two posts £13,679, which reflects their part-time nature and relative dimensions. Preferred age - 45-55.

Those men or women who wish to be considered are invited to write in complete confidence to D.A.O. Davies as adviser to the Department of the Environment.

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MANAGEMENT CONSULTANTS
10 HALLAM STREET LONDON WIN 6DJ

Closing date for Police Graduate Entry Scheme. January 29th.

Because of the complex problems of today's society the Police have an increasing need for highly qualified men and women.

The 'Graduate Entry Scheme' is designed for people considered to have the potential for an increasing promotion to the rank of Inspector and beyond early in their career.

You may apply if you are a graduate, in the final year of my full-time degree course.

You must also be under thirty and meet the physical requirements.

To discover more about a Police career, and salary levels, contact your Career Adviser or send in this coupon. But don't delay.

Final closing date for applications is 29th January 1982.

To Supt. John M. Adams BA, Room 556, Home Office, Queen Anne's Gate, London SW1H 9AT. Please send me your booklet and application form.

Name _____

Address _____

University/Polytechnic/College _____

My Degree Course _____

Ends _____ DT/DS

Signature _____

Date _____

Postmark _____

Telephone _____

Telex _____

Other _____

Employment _____

Other _____

RECEIVED, now are we not
a joyful people? And do not
we rejoice that, when He
has come for us, we shall see Him as
He is! — St. John 3:21

BIRTHS

BALFEY. — On 10th November, 1981, at Bishop's Waltham, Hampshire, Simon, son of Daniel Alexander Lewis, and Louise, for lecturer.

BURKE. — On 12th January, in London, at St. Paul's Church, Dr. Brian and Honoria — a daughter.

BUTTERWORTH. — On January 4 to Jennifer, wife of John, a son, David, and a daughter, Sophie.

CARTER. — Memorial Service for Carter, Mrs. George, will be held at St. Paul's Church, Croydon, W.2, on Friday, January 14th, at 11 a.m., with a memorial service at 1 p.m.

MEMORIAL SERVICES. — The services of Carter, Mrs. George, will be held at St. Paul's Church, Croydon, W.2, on Friday, January 14th, at 11 a.m.

CHURCHILL. — In memory of Churchill, Sir Winston, a son, David, and a daughter, Mary.

HILLMAN. — On 10th January, at Finchley, son, William, and Gordon, son, Joshua, Michael.

HUNTER. — On 1st January, at St. Thomas' Hospital, London, a son, Alexander, and a daughter, Elizabeth.

KIRKIN. — On 10th January, at John Radcliffe Hospital, Oxford, a son, John, and a daughter, Elizabeth.

KRISTOFOROULOU. — On 10th January, at Queen Charlotte's Hospital, W.1, a son, John, and a daughter, Elizabeth.

LAWRENCE. — On 11th January, at St. Paul's Church, Croydon, W.2, a son, Alexander, and a daughter, Sophie.

LISTER. — On 10th January, at St. Luke's Hospital, London, a son, Alexander James.

MICHAELSON. — In memory of Michaelson, Mrs. Anna, a son, David, and a daughter, Sarah Louise.

MULDOUGH. — On January 10, to Gordon, son, Alan (Alexander), and Gordon, son, Alan (Alexander).

NEWMAN. — To Victoria, wife of Alan (John) Cheshire, daughter of Queen Charlotte's Hospital, W.1, on January 11th.

ORWELL. — In memory of Orwell, George, son, John, and a daughter, Sophie.

SCOTT. — On January 10th at Penrhyn, son, John, and a daughter, Sophie.

THOMAS. — On 11th January, at Victoria, son, John, and a daughter, Sophie.

WILSON. — On 11th January, at Finchley, son, John, and a daughter, Sophie.

MARRIAGES

ROYAL WEDDING. — On 14th January, 1982, Peter, Prince of Wales, and Diana, Princess of Wales.

WEDDING. — On 14th January, 1982, Michael, son of Upton Lovell, Wiltshire.

DEATHS

BASKETT. — On January 10th, peacefully, Elizabeth of the Old Royal House, died at her residence, Bisham, formerly of North London, and a daughter of Captain Tawton Dean Crematorium on January 11th.

BLAKEY. — On January 10th, after a year of illness, Granville Blakey, 83, of 83 Sussex Gardens, London, W.1, died.

BUXTON. — Percy William, late of 10, Grosvenor Gardens, London, died peacefully at home on January 10th.

BUXTON. — On 10th January, 1982, Mrs. Buxton, wife of Percy William, died peacefully at home.

BUXTON. — On 10th January, 1982, Mrs. Buxton, wife of Percy William, died peacefully at home.

BUXTON. — On 10th January, 1982, Joyce, wife of Will, beloved of all who knew her, died at her home, Buxton, Derbyshire.

BUXTON. — On 10th January, 1982, Ronald and Susan, Funeral Directors, Cranbrook, Kent.

BUXTON. — On 10th January, 1982, Mrs. Buxton, wife of Will, died peacefully at home.

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Today's television and radio programmes

Edited by Peter Davall

BBC 1

9.05 For Schools, Colleges: Today's subjects are Living in a Developing Country, It's Your Choice, It's Maths, Science Workshop, Scene, Near and Far, Search (Down the River Taff) and On the Rocks. There's an interval at 12.20. At 12.30, News After Noon; with Moira Stuart and Jeremy Thompson; 12.57 Financial report and news headlines; 1.00 Pebble Mill at One: Music and chat. And if it goes out "live", 1.15 King Rollo: for the very young; 1.50 Stop — Go! The testing of a new car; 2.00 You and Me; another one for the very young; 2.15 For Schools, Colleges: Music Time and Television Club (A School in Time); Schoolidiz; 3.55 Play School. (see BBC 2, 11.00am)

4.20 Laurel and Hardy: cartoon; 4.25 Jackanory: Rodger Bannister reads part four of Ursula Moray William's Jeffy, the Burglar's Cat.

4.40 Huckleberry Finn and His Friends: Episode 2 of the Mark Twain story.

5.05 Newsworld: with Paul McDowell; 5.10 Blue Peter: The story of Jane Austen and her secret. The presenter is Sarah Greene.

5.40 News: with Linda Alexander; 6.00 Regional news programme; Around the 6.25, Nationwide.

7.00 Tomorrow's World: Tonight's edition features a new food feature, an expensive piece of hi-fi equipment which can correct faulty records; a new way of making milk products from powder which can increase the life of a cream bun by six months. And another reason why smoking mothers-to-be may be harming their offspring.

7.25 Top of the Pops: with Dave Travis.

8.00 Wildlife on One: The Great Hedgehog Mystery. An A to Z of the spiny ones, including S to Sex.

8.30 Seconds Out: Boxing world comedy. The champion is bound for Paris, but round one is at the airport.

9.00 News: with John Simpson. And weather forecast.

9.25 Shoestring: The Teddy Bear's Nightmare. Another in this drama series starring Trevor Eve as the radio station private eye. Why is the owner of a lost handbag so reluctant to claim it? Also starring Michael Medwin as the station boss; Dave King and Charlotte Cornwell (r).

10.20 Question Time: Robin Day and his panel of experts face another audience at London's Greenwood Theatre. Tonight, the accent is on education. His panellists are Neil Kinnock, Opposition spokesman on education; Shirley Williams, former Secretary of State for Education; John Thorne, headmaster of Winchester College; and Marian Roe, a Greater London Council member.

11.20 Kojak: A full-scale murder hunt is launched for the killer of a police patrolman.

12.10 Weather forecast. Closedowns at 12.15.

BBC VARIATIONS: Cypher (Wales 10.10-10.25 am) Ysgolion, 12.57-1.00 pm News; 2.15-2.40 1 Ysgolion, 6.00-6.25 Wales Today, 7.00-7.25 Heddlu, 12.15 am News headlines. Scotland 12.25-10.00 pm News; 3.00-3.25 The Afternoon Show, 6.00-6.25 Reporting Scotland, 7.00-7.25 The Evening Show. Northern Ireland 11.20-11.25 pm for Schools, 12.25-1.00 pm News; 3.25 News, 6.00-6.25 Sports Around the 6.25, 12.15 am News. England 8.00-8.25 Regional News programmes, 12.15 am Close-

BBC 2

11.00 Play School: The Story of a River, with music adapted from Smetana. Presented by Chloë Ashcroft and Fred Hartie (also on BBC 1, 3.55); 12.00 Open University: Today's subjects are — The Pre-School Child (Give and Take); 12.25 Childhood (5 to 10); Out to Play; 12.40 Home Sweet Home. Open University programmes end at 1.15; Intermission follows; 3.55 Robinson's Travels: Another chance to see this series of films in which the TV and radio personality Robert Robinson goes journeying through India. Today: Calcutta to Mirzapur. His eventual destination is Simla (first shown on BBC 1).

4.45 Muggerington: Ancient and Modern Second screening of this eight-part autobiographical series in which Malcolm Muggeridge, with the help of architect, surveys his multifaceted life. Today: his education and a teaching post in India (r).

5.40 All Creatures Great and Small: More pieces from the lives of country vets. Today: an emergency operation on a workman's dog. With Robert Hardy, Christopher Timothy (r).

6.30 Ennals' Point: Episode 2 of the serial about Welsh lifeboatmen. A local doctor goes fishing and lands himself in trouble.

7.15 Cartoon: M Pintail. From Canada; 7.30 News summary.

7.35 History on Your Doorstep: First in a new series (see Choice).

8.00 Nothing Without Work: Work, leisure and community life of the people of Govan, on the edge of Glasgow. It's the story of a fight for survival.

9.00 The Nolans: Songs from Bernadette, Maureen, Linda and Colleen. They include God Knows, Attention to Me, And Fame. There's another Nolan concert next week.

9.30 Forty Minutes: The Great Cover-up. Documentary about the expense, pain and disappointment that some men have to put up with when they decide to have something done about the fact that they have more skin than hair on the top of their head. Made by John Percival, who knows what it means to be short of that.

10.10 International Darts: The quarter-final of the Embassy World Professionals' Championship, from Jolles Club in Stoke-on-Trent. The semi-final begins tomorrow. The score-setter is Peter Purves. More at 11.30.

10.45 Newswatch: news and comment.

11.30 International Darts: Back to Stoke-on-Trent. Ends at 12.15.

HISTORY ON YOUR DOORSTEP (BBC 2, 7.35), a new series of eight short items designed to provide Britons with short cuts to a better understanding of their environment, seems to take its cue from some lines by T. S. Eliot ("the end of all our exploring will be to arrive where we started; And know the place for the first time"). Tonight's inaugural film is a re-discovery of the Cambridgeshire village of Sawrey where there are sermons aplenty in stones, not to mention books in the running brooks. Speaking of books, there's an excellent one by local historian Alan Rawlinson which the BBC has produced in conjunction with the service (BBC Publications, £4.50). Fred Hoyle, former BBC 2, 9.30 is a Forty Minutes documentary about those men who unlike Messrs Seaford and Brymer,

Beth Morris: BBC 2, 6.30 pm

ITV/LONDON

9.30 For Schools. Subjects include My World (diary men, Seeing and Doing (Roman Britain), Geography (valley glaciers) and Over to You (print, Little Blue); baby elephant story; 10.00 Get Up and Go! with Beryl Reid; 12.30 The Saturday Goose's Birthday dinner; 1.00 News from ITN; 1.20 Thursday news headlines; 1.30 Take the High Road: Scottish estate serial. Enter a stranger; 2.00 After Noon Plus; with Judith Chalmers. Hyacinth Jones looks at the beauty business and sees whether the question is: Is it a great confidence trick? 2.45 Long Arm of the Artist: Episode 2. Shaw's novel serialized by Stuart Latham. The teacher (John Stride) clashes with Mr Bradford (John Horsley) once again. Also starring Geraldine James, Judy Campbell (r).

3.45 Three Little Words: word association game. With Ray Allen.

4.15 Dangerous: cartoon. 4.20 Little House on the Prairie: Mrs Olson (Katherine MacGregor) sees another "daughter".

5.15 Emeralds farm: Yorkshire country folk serial.

5.45 News from ITN: 6.00 Thames area news. 6.30 Thames Sport. The local scene surveyed.

7.00 Does The Team, Think? TV version of the old radio question-and-answer comedy show. With Beryl Reid, Jimmy Edwards, Barbara Howard, William Rushton and Tim Brook Taylor (as MC). The questions are put to the panel by members of the public. And, each week, there will be a different guest personally joining the questioners. This is the first of this new series.

7.30 Film: The Way We Were (1973) Romantic drama about the on-and-off relationship between a politically active girl (Barbra Streisand) and a non-political writer (Robert Redford). With Marvin Hamlisch's much-loved music. Co-starring Bradford Dillman, Alan Howard in War Music (Radio 3, 7.30 pm)

is the common denominator in all eight films. In two of them, to be screened later, he will be the viewer's proxy as explorer. In the others, including tonight's, he is the local history pupil, learning from experts such as Professor Renshaw. I don't see how this series can fail to be an unspectacular success or how, given the average Briton's preoccupation with his past and the vast amount of past that surrounds him, he won't run for ever, or "unearthly". ■ **THE GREAT COVER-UP** (BBC 2, 9.30) is a Forty Minutes documentary about those men who unlike Messrs Seaford and Brymer,

revert to every concealment device known to man in the cause of acquiring an alien covering of head, stretch. The case histories of four afflicted Londoners are examined and swimmer Duncan Goodhew puts the case for those who have found that there can be a bonus in baldness. ■ Radio choice. On Friday shoulders that Alan Howard's, Christopher Logue's **WAS MUSIC** (Radio 3, 7.35) would press down with a mountain's weight and drive both actor and production into the earth. But this is Alan Howard's own creation, this recital of books 16 to 19 of the *Iliad* is a one-man show of rare quality, punctuated by Donald Fraser's integrating music... ■ Guitar enthusiasts will be glued to Radio 3 (3.15) for part one of the Segovia International Guitar Competition.

Radio 4

6.00 News Briefing.

6.10 Farming Today.

6.45 The Widower by George Simenon (r).

7.00 It Makes Me Laugh. Les Dawson returns to some entertainers that make him laugh.

7.30 The Living World.

8.00 Two Lives. A look at the lives of Dafydd Wigley, MP and his wife as they try to give their two healthy children a normal upbringing, while their two other children are dying from a mysterious disease.

8.30 Daily Service.

9.45 Morning Story: *A Five-Set Match* by Donald Bancroft.

10.00 News.

10.05 Film: Four.

10.20 Mews.

10.27 Never Too Late.

11.00 Weather.

11.15 The Financial World Tonight.

11.30 The Record of War. A look at the way the First World War affected women.

12.00 News.

12.15 Rachmaninoff Piano recital.

12.30 BBC Scottish Symphony Orchestra Concert Season, John McCabe, Balakirev (1.00 News).

12.45 Rachmaninoff Piano recital.

12.50 Manchester Midday Concert: Piano Duet recital direct from the Royal Exchange Theatre: Mirella Schubert (1.00 News).

12.55 Hercules auf dem Scheideweg (Hercules on the Cross-roads) Music drama in one act by Bach (sung in German, 1.00 News).

1.00 Michael's Cello Sonata: Cello and Piano recital (1.00 News).

1.15 Segovia International Guitar Competition: excerpts from the preliminary and semi-final rounds (1.00 News).

1.30 Domani Wind Quintet: Recital (1.00 News).

1.45 Rachmaninoff 4.45 The World (1.00 News).

1.50 Music for Pleasure... with Donald Price (1.00 News).

1.55 Schumann: Piano music on record (1.00 News).

1.58 The Press: *The Rover* by Joseph Conrad (9.00 News).

2.00 News.

2.25 Weather.

2.30 News and Financial Report.

2.30 Any Questions?

2.35 It's a Bargain.

2.45 News.

2.55 The Archers.

2.55 News from Council in Question: World Council of Churches.

3.00 News.

3.00 News from Council in Question: World Council of Churches.

3.00 News.



The snowy wastes of Clapham Junction in London yesterday as the train drivers' strike brought unaccustomed calm to Britain's biggest and, at other times, busiest railway junction.

The big freeze claims more victims

By Staff Reporters

The severe weather continued in Britain yesterday, with freezing fog and black ice creating more hazards for motorists forced on to the roads by the rail strike.

A blanket of freezing fog descended over most of England during the morning, causing multiple pile-ups on motorways and several fatal accidents. Motorway speed limits were imposed, and the RAC reported visibility down to 10 yards in places.

A woman passenger was killed in a three-car accident in freezing fog on the Great North Road near Peterborough and a driver from Middlesex died when his car hit crash barriers on the M4 near Reading. A multiple crash involving about 20 vehicles on the A34 in Oxfordshire left two men and a woman seriously injured, and seven-mile queues. Two crashes within minutes on the fogbound A11 near Newmarket involving 11 cars left one person injured, and junction 13 on the M1 in Bedfordshire was closed after an accident.

Mr David Doyle, aged 20, and his brother James, aged 8, died, four people were taken to hospital and dozens evacuated from their homes in Dublin after a series of gas leaks thought to be associated with the freeze.

Mr Bradley Wilson, aged 49, was killed when he became entangled in machinery while clearing out a grit spreader lorry at a county council depot in Darley Dale, Derbyshire.

The London Weather Centre reported temperatures of -16°C early yesterday in

Freeze kills 130 in America

The freezing weather which has gripped the United States since Saturday has now claimed 130 lives and has spread south from Texas to Florida.

There, citrus fruit growers tried to save their crops by lighting fires in the groves or spraying the trees with water.

In the hope that a covering of ice would protect them from the frosty air, farmers are comparing the damage to the \$900m disaster of 1977.

The latest victims of the weather included a man aged 90 and his 86-year-old wife, both deaf mutes, who froze to death as they slept in their New York home after their furnace failed.

several places in Oxfordshire. A spokesman predicted that the cold weather would continue today, but a thaw starting in the South-West, North-West, West Wales and Northern Ireland would reach the rest of the country by the end of the week.

The Government has taken the first steps towards trying to win EEC compensation for the damage caused by the snow and ice. The Department of the Environment has sent reports to the EEC Commission in Brussels, "alerting them that we have said yesterday."

The weather caused £40m of damage to property last month, the British Insurance Association said yesterday. It was too early to estimate the damage

caused this month, much due to flooding.

Hundreds of roads in Wales and the South-West were still impossible yesterday. About 1,400 homes in North Devon were still without electricity, and many isolated communities were cut off for the sixth successive day. By last night the South-West Electricity Board had restored power to 90 per cent of homes.

BL said last night that the supply of components from snowbound South Wales to its Midlands car factories was still critical and would remain so until major roads had been unblocked.

Bread, milk and other essential supplies are still scarce and some areas faced the additional misery of water shortages as ice blocked up reservoir pumping equipment.

Defended, the RAF was using helicopters to ferry supplies to 12 villages cut off from all other routes by 20ft snow drifts. Hundreds of people in Pembrokeshire were still without electricity in spite of the efforts being made by engineers who were ferried in by a fleet of nine helicopters.

Most main roads in south Wales were open for single lane traffic although police enforcers by motorists ignoring requests to stay at home indicated that they would prosecute anyone causing an obstruction.

Miss Wales, 21-year-old Vicki Newitt, had to be rescued by helicopter from her snowbound home at Blaenavon, near Newport, so she could go to London to qualify for the Miss Great Britain contest and Mr Peter Neal, a student aged 20, arrived in Cardiff after completing a week-long 150-mile sponsored walk through blizzards and drifts from Llandudno in North Wales, which raised £1,000 for the disabled students' fund of the South Glamorgan Institute of Higher Education at Cardiff.

In Staffordshire, more than 200 volunteers gave blood at Uttoxeter after an appeal that supplies were running short due to the weather conditions.

Farmers continued to be the

worst hit and mountainous drifts are still preventing them rescuing sheep dying of starvation and exposure.

At the start of a three-day fact-finding tour yesterday Sir Richard Butler, president of the National Farmers' Union, indicated a case would be made to the Government and the EEC Commission for compensation for farmers.

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The Russians also seem to have got wind of something going on in Albania. Only a few days ago they published an article in *Izvestia* which was unusually friendly and conciliatory to Albania and, for the first time in many years blamed the break in relations between Moscow and Tirana on the Albanian leaders, including Mr Hoxha.

Hitherto the Russians had deliberately refrained from attacking Mr Hoxha personally as they were still encouraging hopes that he might change course. But the *Izvestia* article seems to mirror Moscow hopes that the end of Mr Hoxha might herald new prospects for the Soviet Union.

In recent days the Bulgarians have also been paying unusual attention to Albania and there was a flurry of newspaper articles, all in the same conciliatory vein, suggesting that the offer of Bulgarian friendship remains for the Albanians to pick up whenever they may be ready for it. Such a turn would clearly be most unwelcome in Belgrade. However, the Yugoslav relations with Mr Hoxha may have been. He provided a guarantee that Albania would not return to the Soviet camp.

Russia sees its chance in Albania

Continued from page 1

given there to rumours that there were more than a dozen casualties in the shooting showdown. But, whatever the truth, Yugoslavs are inclined to conclude that the days of Mr Hoxha's one-man rule have drawn to a close.

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THE TIMES

Guide to Information Technology

This report is published to mark the start of IT 82, a £1.2m year-long campaign by Government and industry, to create public awareness and overcome suspicions of the "information revolution".

What exactly is information technology? It is considered important enough to command the services of a Government minister, and yet in a recent MORI poll 80 per cent of those interviewed had never heard of it.

The minister in question, Mr Kenneth Baker, hopes for a different state of affairs at the end of this, Information Technology Year.

The officials responsible for promoting IT see their mission in very broad terms. According to the press release introducing IT Year 82, information technology is "the use of computers, micro-electronics and telecommunications to help us produce, store, obtain and send information in the form of pictures, words or numbers, more reliably, quickly and economically". That definition encompasses telephones, satellites, industrial robots, television, even electronic Space Invaders games.

The Year is a purely national campaign — not to be confused with international efforts like the Year of the Disabled. Armed with £1.2m contributed equally by government and industry, the organizers are trying to incite the British people and British companies to join what the chairman of IT 82, Alan Benjamin, called the worldwide Information Revolution.

The country which led the Industrial Revolution two centuries ago cannot hope to outperform the rest of the world again. But we must avoid falling hopelessly behind the leaders, now the United States and Japan. If we make no effort, Britain's relationship with the information-rich countries of the twenty-first century will be rather like, say, Mexico's relationship with Britain after the Industrial Revolution.

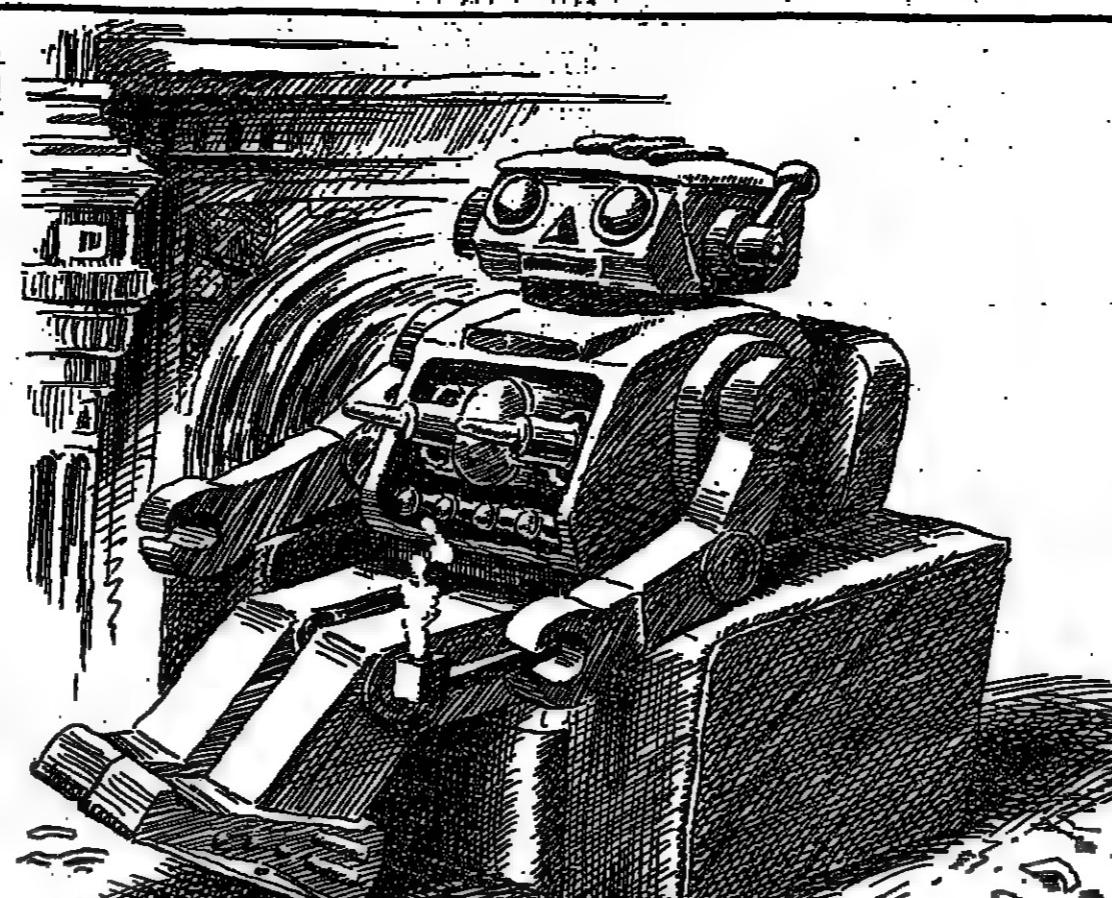
In theory IT 82 is aimed equally at the general public and at industry. The public campaign will attempt to convey the excitement of information technology in the home, at work and elsewhere: schools, colleges, shops, banks, libraries, hospitals. The tone will be reassuring rather than revolutionary, soothed not strident; the idea is to persuade the deeply conservative British people that the familiar landmarks of life will be improved not swept away.

However, it is clear that officially the Government regards the industrial campaign as far more important.

Alan Benjamin says the approach to companies will be "much sharper", saying "get with it, you're behind". It's a much harder message of encouragement to industry."

Many of those involved in IT 82 see this year as a last chance for British industry to keep up with the world leaders. And they do not just mean the IT business itself — computer, electronics and communications companies — but tens of thousands of poorly managed firms making products or offering services that have nothing to do with information, from furniture to food. Almost all of them could improve their processes by installing a microcomputer to store data and process accounts, or a Prestel terminal to gain access to other people's databases, or a computer-aided design or manufacturing system, or even a full-scale robot.

"For industry IT 82 is almost a once-and-for-all opportunity to get its act together," says David Fairburn, director of the National Computing Centre. When I asked Mr Baker what particularly excited him about IT, he replied in indus-



out of all the trains I will need tomorrow."

Mr Benjamin believes that homes of the 21st century will have three separate IT systems, for entertainment, communications and environmental control. Technically there is no reason why they should not be combined into one — and indeed the information may come into the house in single cable — but he says: "I don't think people want to confuse entertainment with communications."

The entertainment system will provide a huge variety of films, music and TV programmes, including "interactive" facilities like a far more sophisticated version of today's phone-ins. The communications terminal(s) will include the (video?) telephone and a means of access to many computerized databases, such as the travel expert we wanted to ask about trains to the Midlands. The environmental systems will control the home's heating, in response to outside weather conditions, so as to minimize energy consumption.

Most of the system's hardware will probably be imported, mainly from Japan. But the software — the programmes that make it operate — may still be produced in Britain. Although some observers believe Britain's "genius" for software — much quoted in the computer-electronic press — may be swept aside by the efforts the Japanese are making in this area too, most of those involved in IT 82 believe that we can hold on to our lead in software and computer applications.

However, Mr Baker warns against counting Britain out of the hardware market too soon. After all, he points out, we are currently turning out more computers than the United States or Japan. In terms of volume, though not of course value, Clive Sinclair's ZX81 is the best selling computer in the history of the world.

Clive Cookson

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What are the fears, opposition and attitudes to IT?

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Page 8 Man and machine in Japan

IT is already affecting all our lives in some way. The next pages look at developments in:

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Clive Cookson

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The state of British information technology is outlined below by David Hewson. On the facing page Pearce Wright discusses the global background to computers, satellites and electronics

Worm's eye view of market

There are plenty of official figures outlining the way in which Britain has fallen badly behind in the rapidly-growing specialisation of information technology. But perhaps the most effective demonstration of this fact can be had by visiting one of the many centres now selling the software of the communications revolution: everything from CB radios to home computers; Prestel television converters to serials for receiving satellite television.

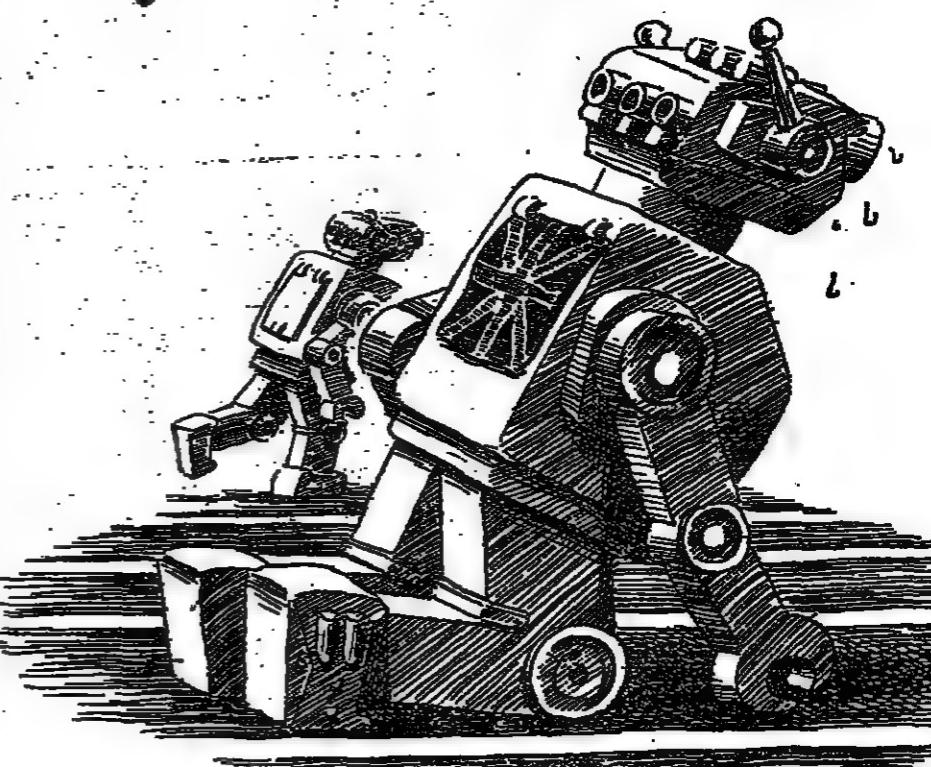
One is unlikely to find more than a handful of British-made products anywhere on view. This may not be a precise metaphor — such shops cater largely for home use or small businesses — but its experience is equally applicable to the larger and more weighty world outside, the vast office systems of the near future, with their electronic mail systems, computerised telephone switchboards, and conference facilities. Linked

Britain's total trade deficit in information technology in 1980 was £300m. The figure is unlikely to be much changed today, and could have been worse were it not for the effects of the recession. And despite the efforts of both government and industry over many years, British manufacturers are no nearer possessing a significant world presence in the exports market.

The most startling area of domestic failure is in the sale of computers and peripherals. In 1979, 83 per cent of a total market of £1,240m went to foreign manufacturers. Two years ago, the sector employed 43,000 people in Britain. Today the recession and redundancies, notably at the state-backed flagship ICL, are thought to have reduced the workforce significantly.

This poor showing is not simply worrying in terms of the domestic balance of trade. At constant 1980 prices, the worldwide information technology market is expected to grow at the rate of 14 per cent from 1980 to 1985, rising in value from £54,400m to £104,700m. During the same period, according to a report prepared by the consultants, PA Computers and Telecommunications (Pactel) for the then National Enterprise Board, Britain's share of the world market can only be expected to remain at 5 per cent.

Pactel succinctly summed up the British problem thus: "Based on estimated 1979 turnover, about half of the world's top 50 IT companies are American-owned, nine are Japanese and Britain is in third place with six companies (including Rank-Xerox



Peter Toms

which is 51 per cent American".

Apart from Rank-Xerox, the British-owned companies are GEC, ICL, Plessey, Thorn-EMI and Racal Decca. None of these companies has the world scale or breadth of commitment to IT of leading American or Japanese companies, or indeed of European competitors such as Siemens or Philips. Furthermore there is a scarcity of dynamic small and medium-size high growth companies in the British IT industry, one marked exception being Racal.

About half of British IT production is from companies which are foreign-owned, usually by American interests, and the domestic industry is, Pactel concludes, weakest in the highest growth areas such as small business computers and word processing, and strongest in the traditional markets such as defence and public telecommunications equipment.

One historical problem which has faced British companies in the field has been its high risk nature.

This situation places on the state a large part of the responsibility for leading the sector forward, whether through such bodies as the National Enterprise Board (which remained the British Technology Group after its recent merger with the National Research Development Corporation) or through procurement schemes which guarantee home markets for new developments.

British Telecom's Prestel videotext system is one of the few areas where a British product has consistently led the field.

Its system of putting information through television sets around a惊人的 amount of foreign interest, even though it is in the early stage of development. British Telecom is working on several advances, including a machine codenamed Albert, which is due to be launched later this year will combine teletext, telex, word processor and telephone functions.

The future for this sector lies in the eventual development of complete home information systems, a prospect which is already exercising media organisations both in print and in entertainment. British Telecom will also unveil its Gateway system this year.

This seems to be one area in which Britain does not face an already established lead by competing nations. The future of System X, the computerised switchboard system developed by British Aerospace through the European Space Agency satellite. There are also encouraging signs in the services industry, which is growing at a moderate rate.

How far Information Technology Year will enable Britain to turn these modest benefits into a real "catching up in the world high technology race" remains to be seen. Certainly the stakes are high. Pactel gloomily predicts that, if current trends continue, we will face a trade deficit in IT of £1,000m by 1990.

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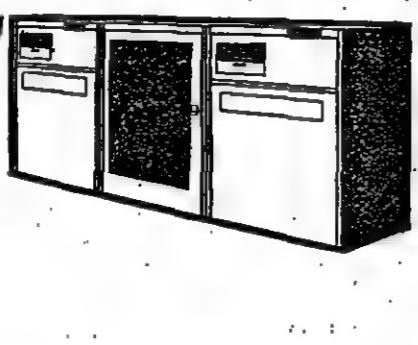
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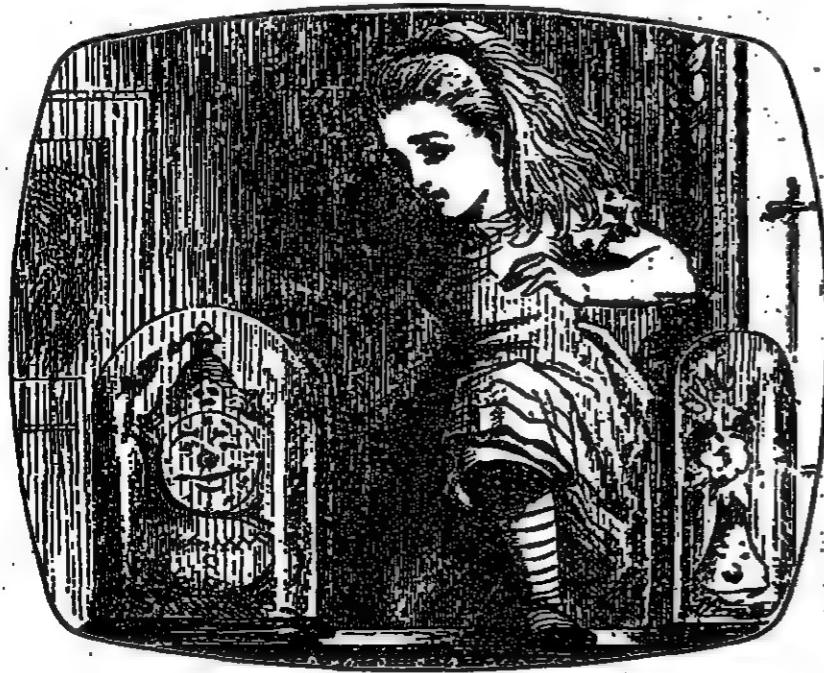
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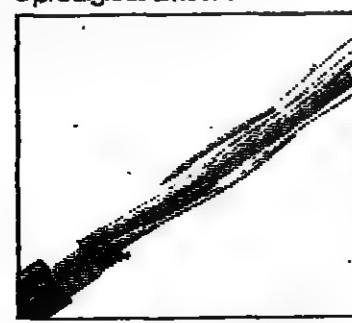


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- first optical TV distribution cable, carrying BBC-1 and ITV pictures to 36,000 viewers in the Hastings area;
- first commercial optical cable communications system to go into Europe's public service network;
- first UK operating optical cable link along 25 kV ac electrified track, complying fully with International Telecommunications Standards.

The continuing importance of BICC's involvement in optical cable transmission is underlined by the recent contract to supply the longest optical cable system in the UK — a 201 km link between London and Birmingham.

As to our resources, these include a dedicated factory at Blackley for the manufacture of optical cables for telecommunications applications, and, for short haul optical cables, a new manufacturing facility at Helsby.

First optical TV distribution cable, carrying BBC-1 and ITV pictures to 36,000 viewers in the Hastings area;

first commercial optical cable communications system to go into Europe's public service network;

first UK operating optical cable link along 25 kV ac electrified track, complying fully with International Telecommunications Standards.

Light years ahead in so many fields



BICC Limited, 21 Bloomsbury Street, P.O. Box 5, London WC1B 3QH

مكتبة من المصلحة

Computers

Japanese firms would have been included in a similar league table produced 20 years ago.

The electronic computer era was ushered in by 1946 with the invention by Dr J Presper Eckert and Dr John Mauchly with their machine ENIAC (electronic numerical integrator and calculator) at the University of Pennsylvania.

However, the first invention was one of several projects in the United States and Europe supported from defence research money for developing new types of powerful machines to help with complex weapons calculations and for deciphering codes.

Nevertheless there was considerable competition between the design teams in the early days. And a counter-claim exists that a machine called Colossus, built in Britain, was the first electronic computer.

The present wave of information technology flows from the marriage of micro-electronics, telecommunications and computer programming. This merger has transformed computing and data processing from an expensive and specialized activity into a cheap consumer market.

In particular it has produced the personal computer; micro-electronic packages to enable telephone and television sets to be plugged into computer information networks; and cheap and powerful electronic units for improving the large and medium-scale computer systems that reside at the centre of big industrial, commercial and governmental organizations.

In addition, the micro-computer has turned the idea of using semi-intelligent robots for manufacturing into reality. One result of that development is seen in the devastation of certain European industries by Japanese enterprise. And it is this innovation which is causing most anxiety among specialists in Britain like Alex d'Agapeyeff. He says it is no accident that the Japanese came from behind to lead in the volume production of micro-circuits.

Confirmation of their success, if it is needed, is shown clearly in the analysis of the world's 50 top information technology companies listed in the chart prepared by the Pactel organization in a recent survey. Not one of the



However, there are more important claims for at least two machines completed in 1948 to be the real forerunners of the modern electronic computer. One of them labelled SSEC, built in IBM's laboratories, and the other known as the Manchester University Mark 1 had the programmes of instructions stored internally.

Many major technical advances were needed to make possible the transfer of computers from the university and military laboratories to commerce and industry.

The first electronic computer built for sale, based on the Manchester University Mark 1, was delivered by the Ferranti company in February 1951. It had 4,000 electronics valves packed into racks in a battery of air-conditioned

cabinets which filled a large room.

The life of the first generation of computers was short because of their size, cost, unreliability, limited storage for information and high power consumption. But the invention which consigned them quickly to the museum was the transistor.

That innovation was the most important among many other crucial discoveries in hardware and software responsible for increasing the number of large and medium-scale computers in use in the world from 6,000 20 years ago to nearer 250,000 today.

But by 1960 development engineers had devised the beginnings of the processes, using photolithography for etching several transistors and other components onto a piece of silicon the size of a postage stamp. That birth of the integrated circuit soon brought a new generation of small, desk-sized mini-computers; and the larger models of computers also entered a third generation of higher speed, more powerful machines.

Then came the major technical leap into miniaturization with large-scale integrated circuits, crowding hundreds of electronic components on one silicon chip, making possible the micro-processor and then the micro-computer.

Yet the same principles underlie the plodding computation of the first computers and the microsecond speeds of the current range of electronic miniatures, all of which need five basic sections.

Nineteen-sixty was the turning point for a lot of key developments, and that year the journal Communications of the Association of Computing Machinery had the following to say about one important emerging subject: "A common business-oriented language, called Cobol, for use in writing instructions on business-type problems for any electronic digital computer, may soon be available. Cobol, which is written in English and independent of any make of model of computer, was presented in the final report to the Conference of Data Systems Languages..."

The purpose of a programming language is to make the writing of programmes cheaper and easier. By definition that means more reliability, because an im-

mense amount of the cost of introducing computer systems is still in the correction of errors. In the early 1960s the production rate for a programmer writing the programme for a business application was about £2 per finished line of machine instruction. A business application requiring, typically, 20,000 lines of instruction code therefore cost £40,000, and more than likely employed four or five people for 18 months to two years.

That level of productivity would be completely unacceptable today. Improvements have been made in automating the design and checking of programming systems. As a result there is a large number of advanced computer languages such as Fortran, Cobol, Basic, PL/I, and hundreds of software packages for particular applications for personal computers used in commercial and administrative applications.

The part which regulates the memory and the arithmetic-logic units is the *control* section. It regulates the flow of information between them and interprets the instructions programmed into the memory, and accordingly, dispatches data once it has been processed to the output section. But the output can go to an almost endless variety of devices. The presentation of words and numbers on a television display of high-speed printer is the most widely known type.

Whereas the actions of robots on a car assembly line are one form of output for the computer's electrical impulses; so are the commands to an aircraft's steering mechanisms from an autopilot, or artificial voice commands or the directions to another computer.

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proved the practice of data processing from an isolated activity to a service on demand. That change has demolished the previous demarcation lines between the computer manufacturer supplying specialized office and industrial products and the telecommunications organizations providing telephones and switchboards, cable networks and radio communications links.

The handling, directing and processing of the flood of information passing through a computer is done by its *arithmetic and logic* units. It is here that the complex calculations are done if the machine is programmed for largely scientific and engineering purposes, and the data is manipulated in commercial and administrative applications.

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Satellites

The merger of computers, micro-electronics and telecommunications has created a single information industry so sprawling it almost defies description. Telecommunications can be regarded as the elder statesman of the three technologies because it pervaded almost all corners of the globe with electro-mechanical telephones and undersea cables long before electronic components and then computers were invented.

But the application of computers and micro-electronics to telecommunications has changed completely the design of the telephone handset and the office switchboard. Computer systems in particular, with their ability to store and control the organization of information, are adding a new dimension to the processes used for the distribution of television, mail, facsimile, telephone and library information.

By the same token, the application of telecommunications techniques and networks to computers has

come a number of developing domestic and regional satellite systems. Third, there are the specialist marine and aeronautical satellites for communications and navigation purposes. Fourth are the military communications satellites.

A recent study by the American National Aeronautics and Space Administration forecasts a demand in the United States for more than 300 video channels, more than 20 million more telephone channels and an annual data volume of 40 million terabits (tera is the symbol denoting one million million) within 20 years. That is equivalent to the capacity of another 100 of the current type of satellites which RCA and Western Union operate for their domestic services.

Even allowing for advances in the application of computers and micro-electronics to telecommunications has changed completely the design of the telephone handset and the office switchboard. Computer systems in particular, with their ability to store and control the organization of information, are adding a new dimension to the processes used for the distribution of television, mail, facsimile, telephone and library information.

More important, when two zones are separated by a p zone they form a transistor, which is an electronic switch. Many thousands of transistors can be formed on a single chip. Moreover 250 chips can be made from one disc of silicon, 3 ins in diameter and one-fifth of an inch thick, which has been sown from a silicon rod 3 ft long.

There is no other manufacturing process like it. Each disc is smoothed and then continued on next page

Some years ago Dr Marvin Kelly, then director of the Bell Telephone Laboratories in the United States, called two of his senior research physicists to his office to witness an experiment by another staff member. The demonstration was conducted with the impurity, but it is enough to cause a deficiency of electrons in this small zone to form a so-called p, or positive, zone. An adjacent area is doped to get a surplus of electrons creating an n, or negative, zone. Hence the name for the complete arrangement is a p - n junction.

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Data, voice and text

In the form of data terminals, telephones and telex, these separate systems are indisputably the three prime methods of business communication.

The trouble is, although each system becomes increasingly sophisticated as technology improves, there has always been one major drawback. An incapacity for each of the systems to communicate with the others.

In effect, there have been barriers preventing intercommunication caused by the varying communication patterns and characteristics of each of the systems.

Meaning that they've all spoken a different language. Until now.

For ITT Business Systems has introduced a common denominator in the form of new technology which uses the Information Transfer Module, ITM for short.

Only we can interconnect them so they can intercommunicate.

In converting the different signalling languages of each of your communication systems, the ITM links them all up together by effectively removing the barriers which have so far kept them apart.

But to explain precisely how it all works would take a technological age.

Suffice it to say that thanks to our innovative approach and our experience in data, voice and text systems, the phone can now talk to the telex, the telex can speak to the data terminal and the data terminal can converse with the phone.

The applications are unlimited.

And surprisingly enough, this apparent miracle can be accomplished using your existing equipment.

No need for any replacements. We will advise you how to add this new technology to your current systems.

Your present telephone, telex and data network systems are simply waiting for Information Transfer Technology.

And in order for them to talk to each other, all you have to do is talk to us.

Write for details to ITT Business Systems, Lion Buildings, Crowhurst Road, Hollingbury, Brighton, Sussex BN1 8AN.

We have the technology to transfer all the information quickly to you.

ITT BUSINESS SYSTEMS IS THE BUSINESS COMMUNICATIONS ARM OF STANDARD TELEPHONES AND CABLES PLC.



Any technology gathers a jargon of its own. Information Technology is a mixture of computing, telecommunications and microelectronics, so the jargon is even richer than usual. Here is an alphabetical ramble through some of the words and phrases the explorer of IT might stumble over.

A

Artificial Intelligence (AI). Although it may seem that computers have taken over, they remain tools controlled by people. So-called computer errors are really caused by humans giving a computer the wrong instructions. AI would allow a machine to learn, and then take decisions on the basis of experience. Widespread application is held up by two things: the need for vast processing power, and uncertainty about how the human brain works.

Automated Office. Computers began automating the accounts office 30 years ago, and now word processors are automating typing. But that is just the start. The word can be sent by electronic mail, along with graphics, and discussed over a voice and vision link. Information can be filed electronically, then recalled selectively for automatic collation. Integration will be a key factor. In the office of the future all sorts of equipment — telephones, facsimile, copiers, typewriters, computers — will be linked together to work as a single system.

B

Basic. A computer language, from Beginner's All-purpose Symbolic Instruction Code. Computers only understand machine-code languages, but high-level languages like BASIC enable programs to be written in something approaching plain English. Other high-level languages include ADA, CORAL and PASCAL, as well as the well-known ALGOL, COBOL and FORTRAN.

The basic unit of computing is a binary digit. All data can be expressed in binary form: combinations of 0s and 1s (0001, 2 is 0010, 9 is 1001). Clumsy for normal purposes, this two-state notation allows a computer to process data by a series of on-off switching actions — something which electronics can do very quickly. Similar digital techniques are now being applied to transmitting speech, recording music or handling television signals, where benefits include better reproduction and greater processing capability. A group of bits is called a byte (usually eight bits).

C

Camos. A type of semiconductor device of increasing importance. Integrated circuits (or silicon chips) are of two kinds: bipolar, characterized by high speed, and MOS, which are more com-

A-Z of Information Technology

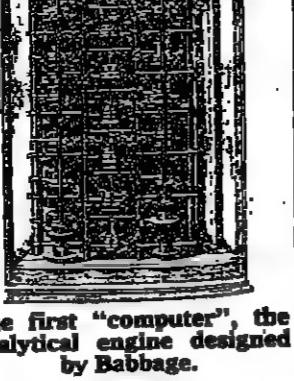
plex. CMOS circuits (from complementary metal-oxide semiconductor) are similar to MOS, but have very low power requirements. Watches and calculators use CMOS, so you do not have to keep changing the batteries, and more CMOS circuits become available, there should be a wider variety of portable electronics.

Cambridge Ring. A local area network developed at Cambridge University. **Central Processing Unit (CPU).** The part of a computer system which controls all the operations, and carries out the arithmetical and logical functions. A microprocessor is a fairly simple CPU on a single chip. At the other extreme is the number cruncher, a computer which handles very complex calculations.

D

Data Base. Any collection of information, even a bulging filing cabinet, is a data base if of a sort. In the world of IT, data bases are files kept in an orderly, electronic form, which can be accessed by remote users following a defined procedure.

Disc. Storage of data on optical fibre. Instead of sending electrical signals over copper cables, information can be transmitted as pulses of light over hair-thin strands of glass fibre. Capacity is far higher, so additional services like two-way TV become possible. British Telecom is laying the world's longest optical fibre link, between London and Birmingham, and expects to buy and install well over 50,000 miles of fibre during the 1980s.



The first "computer", the analytical engine designed by Babbage.

E

Expert Systems. If you persuade experts to tell a computer everything they know, anyone can tap into the information so as to become, in theory, experts in turn. The snag is that expert knowledge may not be amenable to computer storage: how do you codify judgment and intuition, as well as facts?

Forgiving Systems. A computer or other system which allows the novice to make mistakes without chaotic or disastrous consequences. Confused users may be able to press a "help" button, which will call up a series of prompts on the display screen to lead the way out of trouble.

G

Graphics. Anything in representational or pictorial form, rather than letters or numbers, is called graphics in IT. Computers can turn data into histograms or curves, and show them on visual display units or draw them on plotters. Television systems like teletext and video are progressing from the days of primitive graphics made up from a matrix of dots, towards smoothed characters, alpha-geometrics, and eventually alpha-photographics. All in full colour, of course.

H

Hardware. It used to mean the things standing outside an ironmonger's shop, but today hardware is the physical equipment which makes up a computer installation,

J

Josephson Junction. The faster a computer can switch data, the faster it can complete a calculation. For more than 20 years the phenomena of superconductivity have seemed to offer the prospect of unrivalled computing speeds, but the need for extremely low temperatures has so far made the technology impracticable outside the laboratory. The Josephson junction has to be cooled by liquid helium, but can then switch at a speed of less than 100 picoseconds (a picosecond is one millionth of a second). Promising, but experimental.

K

Keyboard. After years of being tapped by typists and teleprinter operators, keyboards have found a new role as input devices for computers and word processors, and to handle other control tasks. The typewriter-style "qwerty" keyboard is still popular, but hand-held keyboards — usually called keypads — arrange the keys in a variety of ways. A hex pad, is used with microprocessors. It has 16 digits: 0-9, plus A, B, C, D, E and F, to represent 10-15 as single strokes.

L

Light Pen. Another way of communicating with a computer is to place a photo-sensitive pen-like device on the screen of a terminal. The points where the light pen touches convey instructions to the computer, making it draw lines or circles on the screen, or selecting an item from a list of optional functions. Another form of light pen, sometimes called a wand, reads data in the form of thick and thin lines which form a bar code. Used at supermarket checkouts and for other data input purposes.

Local Area Network (LAN). By installing a special cable in a building or group of buildings, computing and communications equipment can be connected at any point, and made to interact by sending signals round the ring or loop of cable. Another approach — promoted (not surprisingly) by telecoms companies — links the equipment over the existing telephone wires, creating a star network rather than a ring. Signals go to a central PABX to be processed and sent on to their destination.

M

Mainframe. The largest type of computer installation, needing a specially constructed, air-conditioned

Landmarks over 300 years

The products of information technology are things like office automation, microprocessor controlled washing machines and cookers, industrial robots, video telephones, electronic games, automatic bank cash dispensers, electronic mail and large data processing systems — to name a few. But they emanate from a gradual merging of the four technologies listed below.

Computers

1642 Mechanical Calculator Blaise Pascal, France
1833 Calculating Machine (analytical engine) C. Babbage UK
1839 Punch Card Tabulating Machine H. Hollerith, USA
1939 Mark I Digital Computer H. H. Aitken, USA and IBM
1946 EDSAC (Electronic Numerical Integrator & computer) Moore School, University of Pennsylvania, USA
1947 Commercial Electronic Computer P. Eckert and J. Mauchly USA
1948 Edsac (Electronic Delay Storage Automatic Calculator) M. V. Wilkes, Cambridge University, UK

Electronics

1951 1st General Purpose Computer Ferranti, UK
1956 1st Solid State Computer Univac, USA
1961 1st Mini-computer Digital Equipment Inc., USA
1969 Laser A. L. Schawlow & G. H. Townes, USA
1959 Integrated silicon circuits J. S. Kilby, USA
1962 Silicon Chip S. R. Hofstein & F. P. Heiman, USA
1963 Electronic Calculator Bell Punch Co., UK
1970 Floppy disc IBM, USA
1972 Microcomputer Intel, USA
1972 Video Games Magnavox, USA

Telecommunications

1837 Morse Code on/off Telegraph system Samuel Morse, USA
1847 Undermarine Telegraph Cable W. Siemens, Germany
1848 Transistor Bardeen, Brattain & Shockley, USA
1952 Integrated circuit concept G. W. Dummer, UK
1958 Laser A. L. Schawlow & G. H. Townes, USA
1959 Integrated silicon circuits J. S. Kilby, USA
1962 Silicon Chip S. R. Hofstein & F. P. Heiman, USA
1963 Electronic Calculator Bell Punch Co., UK
1970 Floppy disc IBM, USA
1972 Microcomputer Intel, USA
1972 Video Games Magnavox, USA

Word processing

1714 Typewriting history begins with a British patent to Henry Mill for "...an artificial machine for impressing letters on parchment..." No details survive of invention.
1829 First machine capable of practical work. Called a Typewriter. William Austin Burt, Detroit, USA.
1847 First typewriter in constant use. Christopher Latham Sholes, New York, USA.
1866 Optical Fibre Communications K. C. Kao & G. Hockman, USA
1872 First electric machine, consisting of a printing wheel, invented by Thomas A. Edison. Later developed into the ticker-tape printer.
1873 C. L. Sholes signed contract with E.

Remington & Sons, gunsmiths of New York, USA.

1909 Introduction of portables.

1937 Xerography. Electrostatic images transformed into a powder image and fixed by fusing. Chester Carlson, USA.

1961 Golf ball machine introduced by IBM, USA.

1963 Ink Jet Printing. Method of forming, charging and directing ink electrostatically to form words. J. G. Sweet, USA. Technique extended by A. M. Lewis and A. D. Brown.

(Research by Pearce Wright. Main source: *Electronic Inventions and Discoveries* by G. W. A. Dummer) published by Pergamon Press.

Continued from page 3

highly polished to the quality of scientific optical glass. A microscopic scratch on the surface renders subsequent work on the material valueless. The discs are heated to between 1,000 and 1,200°C to create a hard coating. In the next stage a layer of a polymer material sensitive to ultraviolet light, and known as a photore sist, is applied. Next a tiny photographic plate or mask of the chip's electronic circuitry, scaled down from a drawing 250 times bigger, is used to etch a pattern of electronic components by photo-lithography.

But the technology of silicon chip fabrication is moving rapidly to increase the number of components on existing large scale integrated circuits of 10,000 to 20,000 to very large-scale integration of 100,000 to 200,000 components and beyond.

Pearce Wright

A star is born.

To succeed in any business you've got to have star qualities. The new Minolta EP 320 has so many, it will embarrass bigger machines.

It takes a wide range of original sizes from A3 to A6. And being a plain paper copier means no special paper is needed. You can use your own headed paper, or even copy on film.

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This amazing quality could be yours.

Just think what having such a star in your company will do for your image.



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The good, the bad and the ugly face of change: the fears and attitudes are explained here and on the facing page

Unions: still in benefit?

Unions facing the threats of job losses from the introduction of new machinery and the economic recession are having to re-think their approach to pay bargaining and in some cases fight for their survival.

The various predictions of job losses caused by technological advance, with unemployment figures perhaps as high as five million by the middle of the decade, have wrought from the unions a new negotiating approach which is based on no compulsory redundancies and a rapid move toward shorter working time.

In addition to the jobs threat, unions are also concerned about the quality of work that will be left for those still in employment; model union bargaining procedures insist that negotiators pay attention to the technological implications on job satisfaction, health and safety and other related issues.

Unions strenuously deny that their basic attitude toward new technology is one of hostility and resistance but, they are adamant that the new technologies should be harnessed so that the benefits are shared equally with the workforce.

The central union philosophy is perhaps best summed up by Len Murray: "It is not just a question of accepting the new technology or fighting it. The issue is how we can maximize its benefits and minimize its costs, and ensure that its benefits are equitably shared," the general secretary of the TUC said.

The TUC has played an increasing role in organizing education forums on new technology for negotiators, but a great deal of research has also been done by individual unions.

Union officials believe that the advent of robotics in industry on a wide scale is some years away, in spite of their appearance on the assembly lines at Ford and British Leyland.

Tim Webb, a national officer of the Association of Scientific, Technical and Managerial Staffs (ASTMS), and the TUC's representatives on the Year of Information Technology committee, thinks that the unions are about to face the "second wave" of new technology.

That would mainly come in the areas of banking, insurance and finance, while the first wave in the electronics industry and clerical areas is already here. Mr Webb said that the effect on the electronics industry which was in the first place responsible for designing the

new systems, has been like "the sword that turns on its self" and he gave instances of big job losses in the manufacturing industry.

He hopes that the Year of Information Technology will focus attention on the problems as seen by the unions and open up a debate on the changes that are necessary if society is to be able to cope with the new working system.

Mr Webb wants to see the Government's commitment to

the Year of Information Technology translated into providing extra funds to cope with the structural changes needed in work and leisure, brought about by the lower demand for traditional forms of labour.

That theme is central to

The Leisure Shock, a book published in the summer by Clive Jenkins and Barnes Sherman, respectively general secretary and director of research of ASTMS. They suggest that the words "work" and "leisure" should be removed from the vocabulary and replaced by "activity" and "usefulness".

They paint a gloomy picture of the consequences if new technologies are introduced without changes in attitudes, particularly to the work ethic.

A "slave society" should be introduced with new machines being the servants of workpeople who should then have much greater leisure opportunities.

Jenkins and Sherman say that unemployment pay should be raised to more realistic levels, financed by the increased profits flowing from slimmed down and more efficient industries, and they believe that the education system needs to be more "life orientated."

In the book they argue that

it may even be too late now to start bringing about the changes that are needed because it will take many years to bring about the necessary change in attitude to the old fashioned work ethic.

The authors express con-

cern about the growth of fringe political parties of the right and left and the feeling of alienation among young people, caused, they believe, by the recession and high levels of unemployment.

"The emergence of 'Clock-

work Orange' society is a

nightmare, one coming

closer to reality each day that passes without positive action," they say.

Trade unions' specific demands for smoothing the introduction of new tech-

nology include consultation

and agreement before its

implementation in plants, big

re-training programmes and

new forms of redundancy payments.

Employers, too, recognize

the value of consultation

with their workforces. A

recent survey by the Confed-

eration of British Indus-

try pointed out that these

companies engaged in

genuine employee consult-

ation were enthusiastic

about the results, which

included a more ready

acceptance of new tech-

nology by their workforces.

Retraining and relocation

of workers on the scale

indicated by the unions

would require large govern-

ment funds and the changes

in industry and society

should be brought about in

the framework of a planned

economy with large measures

of state intervention, the

unions argue.

The TUC laid great store

on a joint statement on new

technology agreed in long

negotiations with the CBI.

The statement, which laid

down basic principles to be

adopted in the introduction

of new machinery was

approved by Congress last

year, but when it was sent

out for ratification by the

CBI, its members objected

and vetoed it being signed.

There was apparently con-

cern among the companies

that the statement went too

far toward accepting union

philosophy on shorter hours

and redundancies.

The TUC's education

department has produced a

series of guides for affiliated

unions and shop stewards on

negotiating practices to be

adopted with employers. One

says: "There are real choices

to be made about the pace,

type and social effects of

technological change. It does

not have to occur at the

expense of union members'

jobs and working con-

ditions."

It goes on: "Our key aim

should be to work for change

in agreement. Trade unions

need to bargain for vital

safeguards to jobs, skills and

pay, and also influence

decisions about investment,

products, job design work

organization and so on. The

ability to do this will depend

on a willingness to review

union organization and

change it to meet the chal-

lenges that new technology

presents."

These changes involve

more inter-union cooperation

at plant level and the sweep-

ing away of traditional rival-

ries. Some of the changes are

beginning to take place but

progress is slow as unions

defend jealously their terri-

tories.

David Felton

Labour Reporter

Educating the managers

Mr Kenneth Baker, Minister for Information Technology, (IT) recognises that fewer than 50 per cent of British companies are presently using IT to improve their efficiency and production, yet, according to a recent survey conducted by MORI^{**}, more than half of the British public now believe that "IT is essential to Britain's future prosperity".

While factory automation contributed to an increase in productivity of more than 80 per cent between 1960 and 1970, today's office looks very much like yesterday's office in terms of investment in electronic equipment, staff numbers and types, and the organization and methods of working.

At a recent conference on the new technology at work, Mr Tom Stewart, a senior consultant with Butler Cox and Partners, highlighted some of the areas which caused managers' apparent unwillingness to adopt IT, and why gains in the office are likely to be less dramatic than in the factory.

Mr Stewart believes that the mental skills involved in office work have proved more difficult to assist or replace than the more physical skills in manual work. Second, the social cost of productivity improvements is now being questioned to a far greater extent than in the 1960s. "Higher safety standards, more concern about the quality of working life and a greater awareness of the implications of redundancy, for the individual worker now make some of the apparent benefits of automation less attractive."

Management attitudes towards IT are often hostile as a result of previous experiences.

According to Mr Stewart, past predictions have often failed because of under- and over-estimating the rate of development. He says the most common reason why predictions fail is that "they overlook or ignore human behaviour". Technical progress creates opportunities, human behaviour turns the opportunities into reality (or not). Most managers see the introduction of IT as a major disruption to established organizational structures and patterns of work. That can mean lengthy arguments with the trades unions and employee representatives, especially over such sensitive issues as job evaluations, loss of jobs and changes in working practices.

At the same conference, Mr Malcolm Blamey, the telecommunications manager at Citibank, confessed that

successful automation "is nearly always painful". He says projects will go wrong if there is inadequate consultation with staff involved or not enough discussion on the effects IT will have on the organization of the office. It is, therefore, necessary to have a more participative management style which is not always easy to adopt overnight in an authoritarian organization.

Mr Hamer says that the whole field of IT is bewildering, "and the fact that experts seem to disagree so violently is no comfort to the novice". He suggests that management's attitude towards IT in the office should be "to look very carefully at your office, what goes on in it, how much effort each task involves, and which functions can be most cleanly defined as a single entity and start with those, looking at solutions for a specific problem, rather than products which are solutions looking for problems to solve in the factory."

Mr Tom Elliott, managing director of UIMC, a management consultancy with a strong role to service the Unilever companies, is acutely aware of the resistance to change that can occur as a result of entrenched management attitudes. "Managing change, which IT dictates, is always seen as a threat," he says. He sees the biggest problem as one of education. "It is essential to make managers appreciate the opportunities of technology and to stimulate them to think of ways that IT can help them in their jobs."

A major deterrent to this awareness campaign is, he says, the incomplete dialogue between the potential IT user and the data processing expert, the relationship between technicians and those managers making business decisions. There is an urgent need, he says, for "translation" to overcome this dialogue problem. I have interviewed many managers about technology and its role within an organization who are totally bewildered when faced with the language of the technological world. They resent the suggestion that they might be technically illiterate.

Mr Elliott acknowledges that this happens within some of the Unilever companies. He believes a way to improve the situation is for all managers to be encouraged to use a keyboard and to do simple programming, in that way overcoming their fear of the hardware. Simultaneously, it is necessary to get data process-

MORI survey: Conducted by Market & Opinion Research International among a representative sample of 1,901 adults aged 15 and over in 153 constituency sampling points throughout Britain. Survey conducted for Information Technology Year 1982.

Lynda King Taylor



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</div

They have you taped — and there aren't enough safeguards

It is now more than 20 years since the first step was made — in a House of Lords Bill — to introduce a data protection law for the United Kingdom. We still do not have one. Since 1961, the growing threat to privacy posed by data computerization has been the subject of several more private Members' Bills and debates in Parliament, numerous reports, official and unofficial, and a Government White Paper.

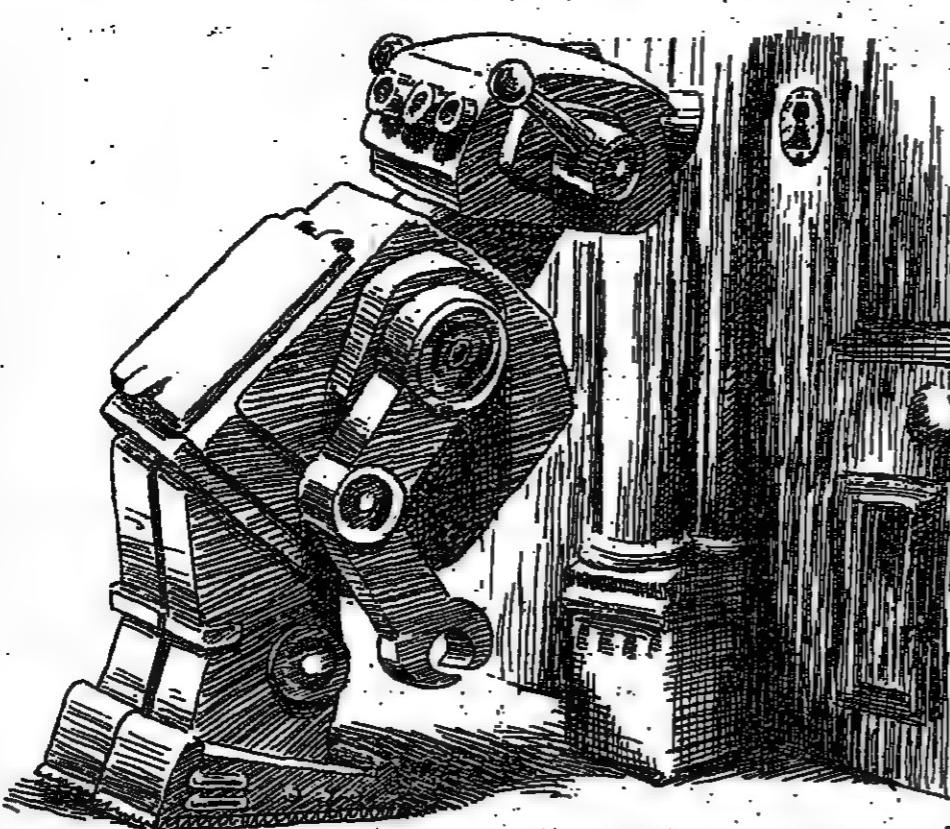
Almost nothing has happened. Rarely can government inaction on a subject of national importance have reached such proportions. Now, it has forced by the implementation of a European Convention on data protection, the Government has promised another White Paper, with legislation to follow when time permits. The consequence of these years of delay is that Britain is now firmly established at the bottom of the league of Western European countries in the area of data protection. This has implications not only for civil liberties, but also for business. Where Britain once led the field in data protection systems, it will once again find itself having to catch up with competitors that have outstripped it. The missed opportunities are incalculable.

The dangers of increasing computerization of personal, official and business information have long been recognized, and as scarcely any longer controversial. First, data can be stored which is inaccurate, incomplete or irrelevant, and yet can be used as the basis for important decisions affecting people's lives.

Second, people may have no idea of the information kept on them have no way of finding out, and no opportunity to correct mistakes. Third, there's the possibility that the information can fall into unauthorized hands, who could use it for all sorts of hostile, even criminal, purposes. Fourth, the information could be used for a purpose other than that for which it was gathered. Fifth, that because computer systems can now communicate with each other easily and speedily, the possibility is increased the comprehensive Big Brother files will be compiled on private citizens.

From birth to death, every individual will regularly find something about him appearing in some file or other. Estimates of how many different files are kept on the average adult individual range from 5 to 50. Some may be thought trivial in themselves — though even library computers can now reveal that a reader took out a book on guerrilla warfare and another on Marxist ideology. Credit card files might disclose an inappropriate spending pattern. The Swansea Vehicle Licensing Department keeps tabs on every driver, change of address, and their computer is available to the police. The list of information kept on the individual — his health, income, social security position, details of his property, his car, his job, and so on goes on.

Of course, for those who have been in trouble with the



police, or been members of an "undesirable" political group, even though they have done nothing illegal, or have particular sexual proclivities, the information kept on them multiplies. More and more of all this information has been removed from the old-fashioned filing cabinet and is being put into computers.

The need for safeguards is not limited to personal information. Business, too, needs protection. If a company's list of customers, or its pricing or production formulae, got into the hands of competitors, the result could be financial ruin. It is also claimed (though firm evidence was harder to come by) that British business has been losing out because clients were reluctant to leave their confidential information in a country which had no protective laws.

Business was not completely united in seeking tighter protection. The multinationals, in particular, were worried about what strict data protection laws would do to trans-frontier transmission of data — an essential activity for companies conducting international business. Guidelines issued in 1980 by the Organization of Economic Cooperation and Development (OECD) have

been largely accepted and followed, and the problem of cross-frontier data transmission is not as acute as it was a few years ago.

In 1978, the Committee on Data Protection, under Sir Norman Lindop's chairmanship, made a number of widely-welcomed proposals for the safeguarding of information on computer. Its central recommendation was that there should be an independent Data Protection Authority to regulate the way computer data was handled and ensure that the privacy of the individual was protected.

There would be different codes for different classes of data. The Lindop Committee set out the principles which should govern data protection:

(1) The individual should know what personal data is being kept, why it is needed, how long it will be used, who will use it, for what purpose, and for how long.

(2) Personal data should be handled only to the extent and for the purposes made known at the outset, or authorized subsequently.

(3) It should be accurate and complete, and relevant and timely for the purpose for which it is used.

(4) No more data should be handled than is necessary for the purposes made known.

(5) The individual

Government has decided to depart from the Lindop proposals on one crucial issue. Instead of setting up an independent Data Protection Authority, as recommended, the Government announced that the relevant authority would be the Home Office itself.

As appalled critics point out, the Home Office is also a very substantial computer user. It is the department responsible for some of the most sensitive and controversial computers, such as those kept by the police, where abuses have already been shown to occur.

The Home Office, Sir Norman Lindop has commented, "can hardly be held to be impartial and disinterested in the area of personal information". That is a view shared by the British Medical Association, the National Council for Civil Liberties, and others, who are pushing for a data protection law. Critics also point out that the Home Office has been the department most responsible for the years of inaction, a fact hardly conducive to inspiring confidence in its proposed new role as the country's data protection authority. Britain is at least likely to have a Data Protection Act on the statute books later this year (1982) or in 1983, but the debate over its content may prove highly controversial. The possibility that the Government will try to set up a system of ombudsmen to act as watchdogs over the use of delicate information is unlikely to placate all the critics. In the meantime, the other countries of Western Europe, and the United States, are happily carrying on with implementing their own laws, leaving Britain as in so many other fields, lagging badly behind where it was once pre-eminent.

Marcel Berlins

Legal Correspondent

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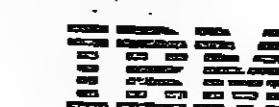
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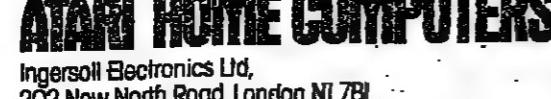
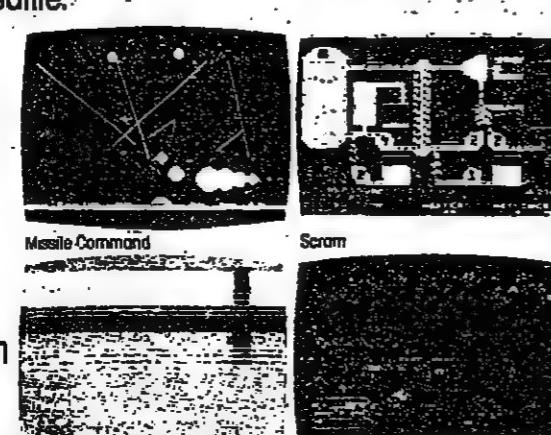
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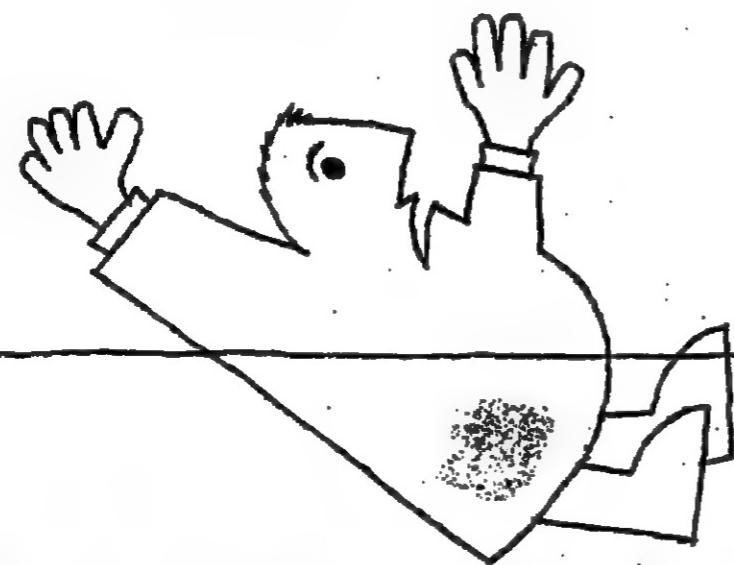
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Mechanical marvels of the double shift

Momoe, Junko, Seiko and Yuko work a double shift every day at the Nissan car plant at Zama, outside Tokyo, turning out Datsun models for the home market and for export. They are precision welders, and their efforts are highly prized not only by management but by the Japanese auto-workers' union.

They are, of course, robots. Painted white and surrounded by a six-foot-high electrically-isolated steel fence, their non-human censors, will inspire a mixture of apprehension and admiration in those who see them for the first time.

The technicians who service these denizens of new technology have given each robot the name of a woman pop star or actress, and a coloured photograph of the lady in question stuck on the side stands out to you as the welding arm performs impossible gyrations to weld car bodies together.

Japanese attitudes towards new technology differ markedly from those of British workers. They welcome industrial innovation, and their whole cultural background is informed by the assumption that industry must continually adapt to survive.

This outlook is encouraged by the Japanese concept of himself as a worker. Ask him what he does, and he will commonly reply "I work for company X" — rather than "I am a welder". In Japan's almost-full employment economy, school leavers exercise much less occupational choice than in Britain, joining a company at hand or a brain and turning their talents to whatever job is assigned them.

And according to diplomats with Western experience, Japanese society is in a process of constant change, so that practically anything new is readily accepted. Innovation is a powerful driving force, that some

argue is connected with the Japanese search for identity.

Japanese workers can afford to take a long view of new technology. The country's tradition of lifetime employment within one company means that workers displaced by innovative techniques are not sent out of the factory gate, as they might be in Britain, but are retrained and given a job elsewhere in the enterprise.

At the Nissan plant in Zama, factory manager Mr Nakayama outlined his philosophy to automation: "There

are three reasons: quality is improved, and becomes more stable; human labour is replaced by robots where the work is very hard, and safety is improved; and there is manpower saving."

The company has largely automated its body assembly line, and is now working on a second generation of robots to take over the paint shop and the final assembly line. This target should be achieved in four to five years.

It is at this point that a shadow crosses the face of union official Hiroshi Kosaka, assistant general secretary of Jidosa Roren, the Social-Democrat affiliated autoworkers' union. "Our ideas are rather different," he insisted.

"We think it is very good to have robots where the work is hard, or there is a difficult working environment. However, there is a problem about unemployment. Up to now, we have been able to introduce robots without reducing employment because domestic and export sales were good.

"But if more robots come, there will be a problem. Of course, technical innovation plays a role in the improvement of productivity, so we are not opposed to this. But there is a problem concerning employment and the transfer of workers from one place to another." His answer to that: "There should be

constructive joint consultation between labour and management."

There was consultation when the robots were first introduced four years ago. Those few employees who were displaced were found alternative jobs.

Similar experience was reported from Asahi Shinbun, the mass-circulation Tokyo daily paper, where the introduction of computerized printing technology did not lead to lay-offs. Some workers were "loaned" to associated companies, with a wage protection guarantee. Others were retrained and kept within the paper.

That is employment protection on a scale that British workers can only dream about, and it may not survive indefinitely in Japan. The lifetime employment system that underpins job security in the face of rapidly-changing technology is giving way slowly but surely to a more flexible system.

The huge gap between starting pay and the top wages paid to men in their mid-fifties, nearing retirement, is narrowing rapidly.

Older workers tend to adapt less easily to technical innovation, and companies are

being obliged to reward adaptability and skill as well as long service.

But while the Japanese economy continues to expand and national wealth keeps on growing, the unique job-for-life system it supports will permit the smooth introduction of new technology, which in turn contributes to economic growth. It is a magic circle of prosperity that Britain can only envy, but British companies intent upon going in for new technology in a big way are likely to find that union negotiators will insist on retraining and reemployment, Japanese-style, in factories here.

Paul Routledge

Labour Editor

Below and on the next six pages the impact of this technology on our work and play is examined. Articles cover the effect on health, education, the office, home and finance

Health on the bleep



Commodore computer being used in a pharmacy to produce labels for prescribed drugs.

Confidentiality is the key issue when it comes to computerizing medical records — either as complete records or as selected items for an in-patient information system which would be used for health service management and planning.

An NHS committee has already produced recommendations on a national in-patient information system that can be used to help doctors to diagnose more accurately and to prescribe more effectively and cheaply.

Other systems are being developed for handling the endless administration of hospitals.

It is in general practice that most patients are likely to see the impact first. So far only about 200 to 300 of the country's 27,000 general practitioners have actually got a computer. But for an outlay of £3,000 to £11,000 — tax deductible, of course — a GP can now equip himself with a system that not only makes his life easier, but actually makes him a better doctor.

The system will, of course,

do the accounts, and other mundane chores including ensuring that all the myriad fees a doctor can charge are claimed. The money saved can make the computer an attractive proposition in its own right. More importantly for the patient, the computer can maintain a patient register that can be made to print lists of patients by age, sex, disease, or other classification. Thus it can print a list of all girls in the practice aged between 10 and 13 who need to be called for German measles vaccination; elderly patients with bronchial trouble who would benefit from influenza vaccination can be printed out at the start of each winter; appointments for regular screening for cervical cancer can be made.

Fully computerizing orthopaedic medical records is probably not worthwhile — large amounts of storage, which is expensive, would be required. But key facts can be tagged to each patient's computer file, such as allergies to penicillin or other drugs, or the fact that a patient is diabetic, or has high-blood pressure.

Drug prescribing can also be markedly improved with a computer. A selection of possible drugs can be printed up on the screen, together with their costs, and warnings of possible side-effects and interactions.

The result can be choice of the cheaper drug when a choice exists; the avoidance of interactions that doctors would not normally carry in their head, and the possibility of printing out a weekly or monthly summary of what has been prescribed.

Doctors who have done this find their prescribing habits change when they start to ask themselves whether dozens of prescriptions for minor tranquillizers are really necessary in every case.

Compatibility key issue

Repeat prescriptions, too, can be handled by the computer, with the added advantage that after a given number the computer will insist that the patient is seen by the doctor to ensure that the drug is still needed.

A key question for the future is whether the various systems on sale and being developed can be made compatible, both with each other and with hospital and regional computers, as they are installed.

This would allow files on drug information, for example, to be updated from a central source, so that the latest information was automatically available to each GP. The result would be virtually to impose better prescribing on family doctors.

Educational programmes to keep GPs up-to-date could be provided.

Another advantage of such link-ups would be access to the diagnostic aids being developed. Already there are programmes to help diagnose and/or provide the outlook for acute chest pain, abdominal pain, gastric bleeding, jaundice and head injuries.

One of the most advanced, the computer-aided diagnosis of abdominal pain has been developed at St. James's Hospital, Leeds, by Dr Timothy de Dombal. It has proved so successful in helping relatively junior staff to improve the accuracy of their diagnosis, that it is now being tested on United States nuclear submarines for use by paramedics to decide whether the submarine needs to put back to port with a sick patient, or whether the case can be handled on board the submarine, which do not carry doctors.

The result is not only better diagnosis, but a marked decline in unnecessary operations which not only save money, but reduce risks to patients.

Dr de Dombal emphasizes that the computer only provides advice — the doctor makes the final decision.

"What we have effectively done is put the experience of 500 doctors from around the world into a small box," Dr de Dombal says. "If you do that, the small box is going to get pretty good after a while. All that experience is available to the doctor trying to diagnose acute abdominal pain, and if that doesn't help him, probably nothing will."

With the aid of the computer, junior doctors, once trained on the system, can bring their diagnostic accuracy up close to that of an experienced doctor within a few weeks.

Dr de Dombal says that in

the next decade, if all goes

well, such programmes could become fairly commonplace in general hospitals, covering perhaps 10 per cent to 20 per cent of medicine where the problems can be clearly defined. "There are whole areas of medicine, however, that are never going to be covered by the sort of programme. The areas where medicine is still a much art as a science, and you are relying on the judgment of shrewd consultant."

The equipment necessary to run a programme such as that for acute abdominal pain costs about £1000 now, against £250,000 10 years ago. If hospitals adopt computerization on a large scale, however, the software could be easily tailored to fit into a system that would also run patients' administration, records and the other services a hospital needs.

£30m spent ad little result

Although item such as payroll have been computerized in the NHS for as long as they have anywhere else, the more medical and experimental side of NHS computing has a rather sorry history.

Many of the first 15 projects for patient administration set up by the Department of Health in the late 1960s ran into serious trouble. Some £30m was spent in a decade with little tangible result, other than harsh criticism.

The DHSS, apparently once bitten, became cautious about further experiments and in 1980 the chairman and three leading members of the department's computer research and development committee resigned. They warned that Britain was falling behind in the use of computers in hospitals and primary care, and balked particularly at the refusal of the department to back two particular projects.

One, that is still a live issue, was to computerize the work of family practitioners committees, who maintain registers of doctors and pay the family doctors. The other was to spend £2.5m over eight years, installing a comprehensive American computer system called Promis at the Royal Free Hospital, in London.

That system would virtually have run the hospital. Patients' records would have been computerised admissions and discharges handled, and laboratory tests stored, while the stocks, costs, uses and interactions of the drugs in the hospital's pharmacy would all have gone on the computer complete with a virtual network of medicine which in theory would have provided excellent teaching and better diagnosis. The system advocates maintain that running costs as an experiment would have been roughly matched by its savings — perhaps £29,000 a year in saved paperwork, and 15 per cent or £180,000 a year of the drug bill, plus all the benefits of improved efficiency and fewer lost notes, test results and the like.

It was, however, turned down.

The dust from the爭議 only now seems to have settled, and while the advocates of Promis fight on, new NHS Computer Policy Committee is getting underway to decide the expansion of computing in the health service.

Some of the early experimental projects that survived are now producing good results, and Mr Gordon Roberts, chairman of Oxford Area Health Authority and chairman of the new committee, says he is impressed by the amount of work that has been done in NHS computing.

The problem is standardization. At present the computer has no budget. When it gets one it seems unlikely to support "turkey projects" for complete computerization of hospitals. Rather it will be looking for the development of compatible packages.

Nicholas Timmins

A child shall lead them and late starters follow

Children respond extraordinarily well to information technology. As IT Minister, Kenneth Baker said: "they are my best fellow missionaries" in spreading the IT gospel.

Anyone who has seen a 12-year-old computer wizard programme a ZX81, or even a three-year-old playing with an electronic toy, will know just what he means. So will teachers who have been taught computing by their pupils at sixth-form seminars — an increasingly frequent occurrence, according to Mr Baker.

No, the problem of introducing IT into education is not acceptance by pupils or students. They love to get their hands on a computer keyboard and learn remarkably quickly how to use it. The barrier is mainly financial — the shortage of money to buy hardware and software.

But there is also a human obstacle in the shape of certain school administrators and teachers who quietly oppose computerized teaching aids, partly out of sincere belief that education will suffer if the human element is reduced, and partly because of

the general Luddite reaction to new technology which you do not understand and which may threaten your job.

The Government is trying to reduce the financial barrier to the educational application of IT, through schemes such as the recently introduced Micros in Schools programme. Many private individuals and industrial companies are also giving schools and colleges financial aid to introduce new educational technology, or lending or donating the equipment itself.

The human problem is not so simple to solve. The Government is doing its best, by supporting microcomputer courses for teachers through the £1.5m Microelectronics Education Project.

But what is really needed is a revolution in basic teacher training. Mr Baker would like "to move to a stage where every teacher going through a teaching college has a period of two or three months learning where the micro fits into the educational process". Unfortunately there is no sign of that happening yet.

MICROS

Britain has two schemes to put a microcomputer into every secondary school. Under the official Micros in Schools programme, the Department of Industry has approved 1,900 applications for 50 per cent funding towards the cost of a micro-computer. And microentrepreneur Clive Sinclair claims to have signed up 2,300 schools for his alternative scheme which expired in December.

Mr Sinclair sold any secondary school his ZX81 micro with a 16K (16,000 character) add-on memory for £65 — half the normal price. He launched his own scheme after the Department of Industry excluded the Sinclair micro from its official programme. The Government offers grants towards the purchase of just two models, the RML 330Z sold by Research Machines of Oxford for £1,680, and the BBC Microcomputer made by Acorn of Cambridge (£260).



First steps in computer technology. Schoolchildren often adapt better than their elders to complex innovations.

When the Government scheme was launched last June, it was restricted to the 2,500 to 3,000 secondary schools thought to have no computer equipment at all. But from this month the grant has been extended to schools that do already own computers.

Although Kenneth Baker is confident of reaching his goal of putting a micro into every secondary school by the end of this year, that achievement will not be much more than a symbol of the need to bring education into the IT age. For a single computer in an average high school will allow only one hour's use per pupil per year.

Progressive local authorities are therefore investing more of their scarce funds in additional computers, to give all pupils significant "hands-on" experience. And particularly imaginative authorities are linking together the micros in several schools, allowing them to share their databases in a network.

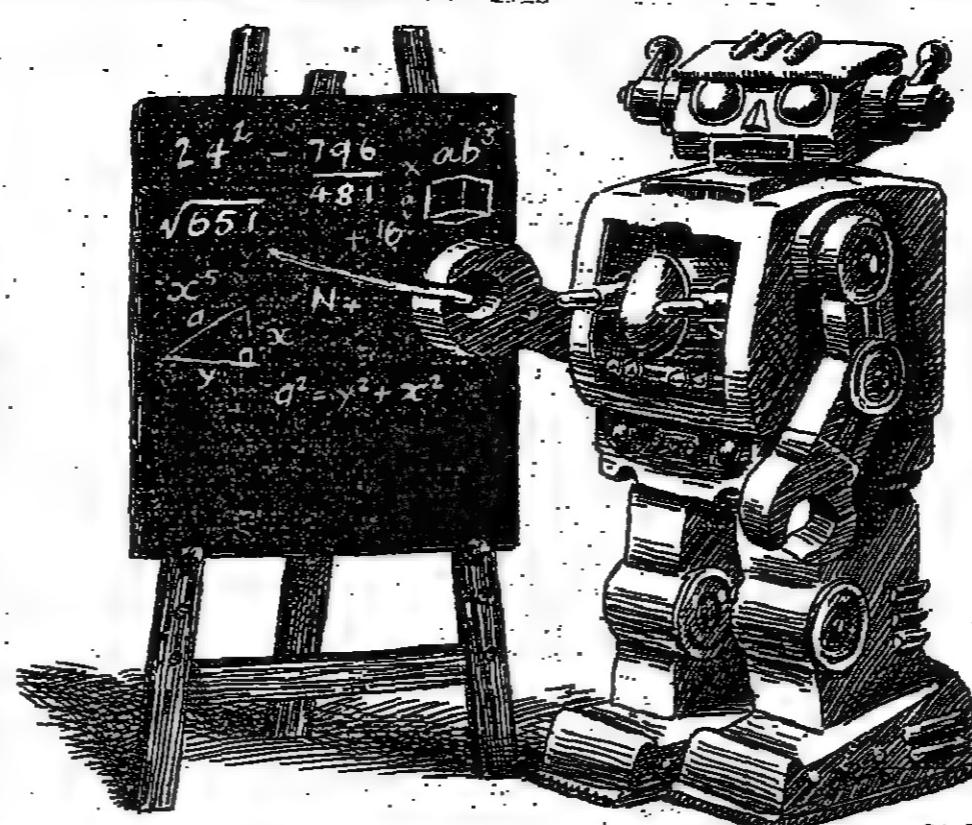
One example is North Tyneside Borough Council. It feels that a network is the only way to provide the large amount of data storage that is required if the computers are to be used across the whole curriculum. Otherwise, the council feels, "there is a tendency for mathematics and science departments to retain the system for their use, and teachers in other subjects can be unhappy about using a system that is felt to require knowledge of advanced mathematics."

North Tyneside is considering the possibility of using the local authority mainframe computer to provide mass data storage for all its schools. The problem is that the data would have to be transferred fast when a school needed it. Ordinary telephone lines are too slow and special data lines too expensive, so radio transmission is being investigated. The council says the main difficulty is obtaining Home Office approval.

Job training

The Government has received much publicity recently for its decision to set up a national chain of about 20 Information Technology Centres, to give unemployed and school-leavers training and work experience in micro-electronics and computer skills. They are based on the Nortin Dale Technology Centre in London, which has trained about 60 teenagers

North American is geo-



Peter TH

York). It is hoping to win more funds for expansion from Mr Annenberg's gift.

Distance learning is further advanced in Canada, whose Anik satellites are beaming educational programmes to remote Eskimo villages in the vast Arctic wilderness. Several Canadian provinces are starting their own open universities; the latest is British Columbia's Open Learning Institute, which is being set up with assistance from Britain's OU (which has an office in New

Clive Cookson

Robots to the rescue...?

The industrial revolution now taking place in Japan, the United States, some European and other countries was made inevitable, it can now be seen, by the rapid developments in microelectronics during the past decade. To an important degree the application of these developments to industry has been characterized by the manufacture of microprocessors which has opened up an almost unlimited prospect for the automatic transfer of engineering data to management control. But although the fundamental technology has been available for some time it is only now becoming a feasible industrial application as the cost of electronic control devices begins to fall and their reliability and power increases.

The Fujitsu plant is the world's first factory to be unmanned except for minor machine operations and administration and it has naturally astonished visitors, but similar advances are now being made by the United States, France and West Germany. Britain, too, is to develop an FMS through the recently announced partnership of the machine tools division of Tube Investments and Taylor Hitac, a specialist robotics company.

Commenting on what will be Britain's first venture into FMS, Professor Robert Bell of Loughborough University said: "There is just time to put this right in Britain. We have five years to put it all together or our manufacturing industry will go into accelerated decline."

There can be no doubt that that warning was needed so

continued on next page

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A computer keeping an eye on stock control.

This article has been written on a piece of electronic equipment, a word processor, that makes my electric typewriter at out of date as a quill pen. When I make mistakes, my ET 121 corrects them... well I press a button to correct them instead of using a rubber.

Talk with any secretary and she will usually say that Information Technology has taken the routine, monotonous chore out of her job, and just as the golf ball typewriter was the perquisite to entice secretarial talent, now it is electronic text editors or word processors.

The cost effectiveness of word processors may be questioned, but for the user there is no doubt that office technology can make for more job satisfaction.

A couple of years ago Aline was one of a number of copy typists in the head office of one of France's large regional banks. Her work, she said, was boring, repetitive and her morale was low. "I did not have to think or even look for anything. I just typed exactly what was written out for me, and spent most of the day thinking about other things."

Andrey constantly had to do reports. She works in one of the larger chartered accountants' offices in the City. Her boss constantly changed paragraphs and phrases and sometimes the report was re-typed as many as 10 times. "The constant repetition and irritation it caused made the morale around the office quite sour".

For both of them their

working life has been changed because of IT. They both agree, however, that they do not need word processors for all their work, but certainly for duplicate letters, standard text work and long reports, it has made their working lives more rewarding, less tiring and physically demanding.

The Civil Service concluded an investigation last year into the economics of using word processors for 30,000 typing secretarial staff. The report said that to justify replacing an electric typewriter with a word processor, productivity increases of between 43 per cent and 72 per cent were required, depending on the labour accommodation and equipment costs.

The report says "mean productivity improvements of

this order were not generally achieved on the day-to-day work by the majority of operations". However, the report goes on to comment that worthwhile improvements in productivity are possible.

As a basis for cost comparisons, word processors were priced between £6,000 and £9,000 against an electric typewriter costing about £400.

The report did suggest that with the trend towards very stable or even reducing equipment costs and increasing staff costs, the cost equation may well change significantly in the future in favour of word processors".

Many managers I have interviewed still complain about the reliability of certain models and the difficulties in getting after-sales

service and maintenance. Two secretaries were frustrated when they could not finish a report because of faults on their word processors.

The International Information/Word Processing Association has complained bitterly about manufacturers concentrating their efforts into selling, but little time being devoted to operator training and after-sales service and support. When the machine goes wrong equipment costing on average £7,000 is laying idle. In addition there is the cost of the operators' time, which in London is averaging £6,500 a year.

However, many secretaries are not certain just how IT can help them do their jobs better, and they rely on their managers — or the media — to make them more aware.

One of the grievances here is just where to go for positive information and non-biased advice. A secretary who has an IBM golfball typewriter is likely to turn to her IBM salesman for advice; but if she has no machine loyalty then she may find the IT world baffling, with its proliferation of products, prices and permutations.

Conferences and exhibitions like Info 82, the first major IT conference in February at the Barbican Centre, provide an insight into product variety. So do walk-in retailers like the Xerox shops. But many secretaries still complain bitterly of the technical jargon of the manufacturers. One secretary said to me "I wish they would explain their explanation!"

A report to be published soon by Butler Cox and Partners, *The Market for Office Technology*, examines

continued on next page

Continued from previous page

far as Britain's introduction of FMS is concerned. But there has, in fact, been a readiness to employ industrial robots in Britain that seems both surprising and encouraging. It is officially estimated that there were 500 robots in British industry at the end of 1981. This compares with 1980 estimates of 14,000 in Japan, 3,225 in the United States and 850 in West Germany but it is important to bear in mind that the definition of a robot varies widely.

However, a recent survey by the British Robot Association of 370 industrial robots in Britain showed that they were installed by 140 to 180 users. In Europe only West Germany and Sweden report more users.

Robots are now capable of undertaking a wide range of routine industrial tasks normally performed by human operators. At present

they are used most frequently in such operations as: paint spraying and other surface coating; spot and arc welding; machine tool changing; die casting removal; injection moulding; process machining and general handling.

In a report to be published this month by Inbucor, the international management consultants, detailed case studies of nine British companies show why they installed robots and how they have benefited.

The companies studied were: TI Creda (manufacturers of electrical appliances — cookers, washing machines and kettles). Two RAMP robots, together costing £40,000, operating at the Glynne Bridge factory near Stoke-on-Trent. Employed on spraying heavy electric cooker ovens and panels with vitreous enamel.

Ransomes, Sims and Jefferies (agricultural machinery and grass cutting

equipment). Employs about 1,600 mainly on a single site in Ipswich. Operates one Tralfa robot for arc welding parts of ploughs. Cost of robot and welding equipment £35,000 plus £6,000 for rotary mounting table.

BL Thirty seven robots operating mainly at Longbridge on spot welding of the Metro body frame.

Laurence, Scott & Electromotors (electric motors and switchgear). One of three Norwich plants is using two Electrolux MUH Senior robots to load and unload a notching press. Cost was £25,000 and the benefits have included improved machine utilization.

J.C. Bamford Excavators. Employs about 1,500 people on a single site at Rochester, Staffs. An AWP Hal programmable welder was installed in 1979 at a cost of £54,000, and has been employed on some 10 different arc welding operations.

Wavin Plastics (extrusions and mouldings for the gas, water, farming and building industries). Employs 1,000 people at sites in Brandon, co Durham and Ashford, Kent. Two Unimate 2000 robots are operating at Brandon, unloading large plastic injection moulding machines. They cost between £40,000 and £50,000 each and, operating for 24 hours a day, seven days a week, they have led to significant improvements in the utilization of expensive injection moulding machinery.

Metal Castings (Worcester) (diecastings for the automobile and other markets). Employs some 600 people. The company has pioneered the use of robots for diecasting in Britain. Six Unimate 2000B machines in operation installed at a cost, including automation and micro-processor controls, of £750,000.

Lansing, Bagnall (electric forklift trucks). The company has a Unimate Puma on

the point of starting production at the Basingstoke plant. The cost is \$30,000 and the robot will be employed to arrange electrical wire into a loom configuration for use in the control circuits of forklift trucks.

WCB Clares (trolleys, bas-

kets and shelving systems for shops and supermarkets). Employs 245 people at Wells in Somerset. In 1977 an ASEA IR60 was installed for arc welding side frames for stacking trolleys. Two more were bought later and a fourth robot is at present on commissioning trials. Cost of the first was £57,000 and the next two cost £45,000 each. The fourth will cost £37,000.

Quite apart from the specific benefits obtained these case studies demonstrate that robots can be employed successfully in medium-sized and small companies.

Another important group of techniques which have emerged over the past 10 years and which seems to

have the potential to transform manufacturing industry over the next five years is incorporated in the concepts of Computer Aided Design (CAD) and Computer Aided Manufacture (CAM).

CAD is much more than applied computer graphics or the automation of the drawing office. It incorporates modelling, analysis, simulation, optimization and visualization in designing for production. CAM incorporates the NC, CNC and DNC technologies as well as robotics and automated testing with all aspects of computer-based manufacturing control and procurement.

It is claimed that CAD and CAM, when linked together, not only improve design and manufacturing technology but also the efficient management control of the business, especially when they are integrated through a database system. CAD/CAM techniques have already been in many industries in Britain and abroad. They include electronic, mechanical and electrical engineering, ship design, building and the offshore industry, ceramics, glass, furniture, fabrics, cartography, mapping, land management, civil engineering and the design of office layouts.

In stock control, too, computers are already playing a major part. Reporthouse, the British retail clothing chain, has installed a system to replenish their shops daily after sales details are transmitted to the head office computer in Leeds. But the technique in Japan is even more advanced. There, the computerized stock-control system is called Kanban which, roughly translated from the Japanese, means "just in time". The system is so tightly organized that Western observers have been amazed to see the minute

stock levels carried by such companies as Toyota.

Although the use of robots has so far been concentrated in manufacturing, other important growth areas are appearing. These include marine development, nuclear industries, medical and hospital work, transportation, agriculture, forestry and construction. A public service which is likely to be robotized in the future is firefighting and it is expected that domestic cleaning will be eventually carried out by robots. In construction, the erection of steel structural frames and the cleaning and painting of bridges and buildings are all likely to be assigned to robots.

*Industrial Robots will be available at £90 from Inbucor Management Consultants, Knightsbridge House, 191 Knightsbridge, London SW7 1RN.

Alan Grainge

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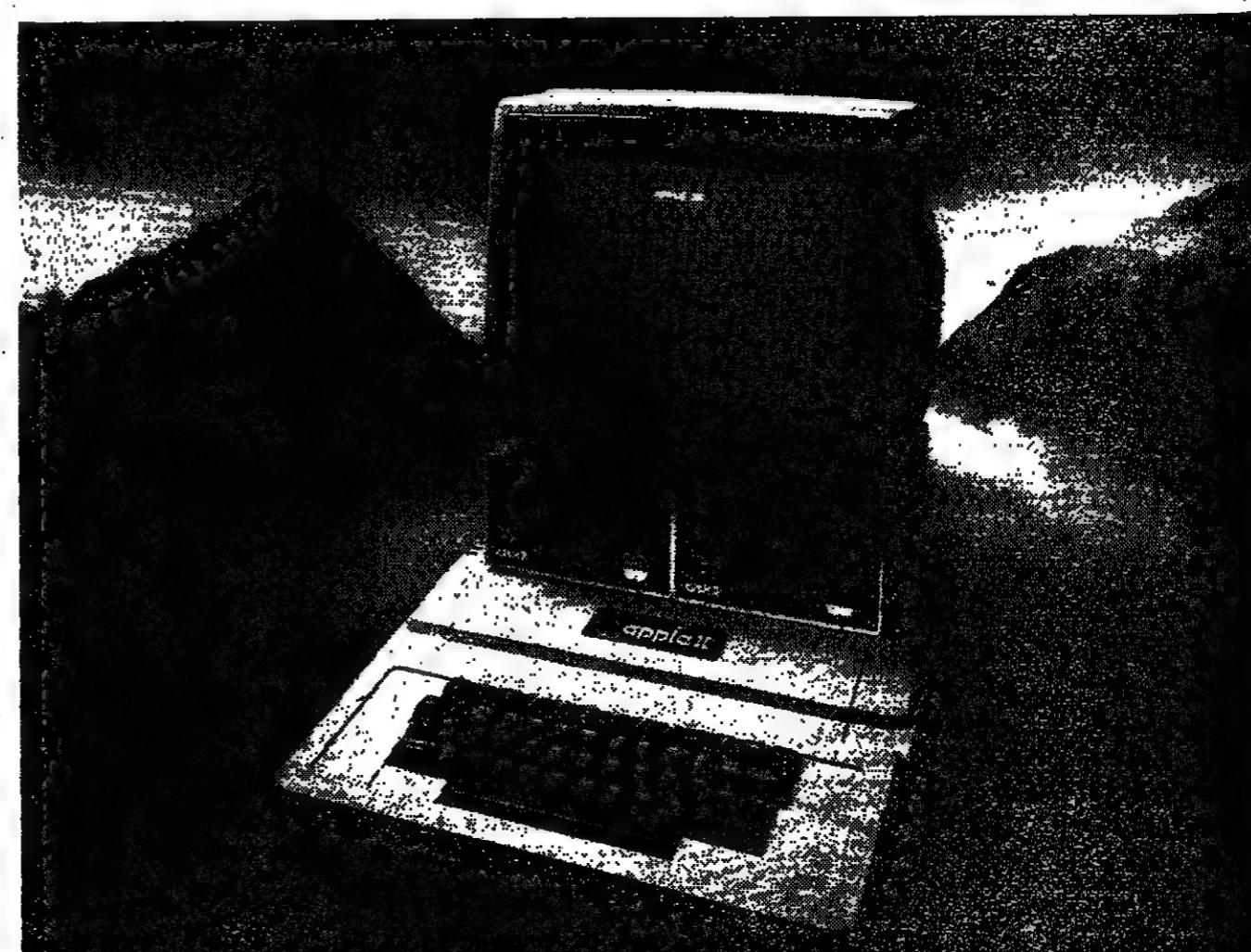
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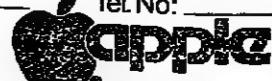
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Push-button shopping arrives



Computers in the home: the use of computers holds no fears for the young, many of whom are now using computers daily at school. The machine being used here by an 11 year old is the newly-launched VIC 20 colour computer. More than 18,000 have been sold since the launch in October.

Generally the home with a suitably adapted television set has a choice of two videotext information services. There is teletext, broadcast by the BBC and ITV, and there is viewdata provided by British Telecom through telephone links.

One of the basic appeals of computer-based videotext information is that it can be updated rapidly and cheaply by the sender. Print-out attachments can be fitted to receivers.

There are believed to be 250,000 to 300,000 sets either purpose-built or linked to an adaptor to receive teletext. The BBC calls its product Ceefax, that from ITV is Orac.

When British Telecom's own viewdata operation, Prestel, opened a little more than two years ago it expected to compete in the mass market with Ceefax and Oracle. But so far it has attracted only about 15,000 clients, and has shut down some of the computers which were ready to meet the information explosion.

Since both systems provide a similar service, information in printed and computer-graphic form thrown on the television screen at the touch of a few buttons on a keypad, the discrepancy in public response looks strange. But there are a variety of reasons.

Long cord is required

The principal one is that videotext comes free, like other television programmes, although the BBC says cautiously "not at the moment" when asked if an extra licence is required for Ceefax. ITV takes advertising to pay for Oracle. The only cost to viewers is that of buying a new set or an adaptor to receive broadcasts.

Prices vary, but a trade spokesman suggested a 22-inch full remote control television set, normally selling at about £350, might rise to £450 to £475 for Ceefax and Oracle. With Prestel as well the price could be £575-£600. Adaptors for an existing set of the same kind, he said, would range from £200 to £250 for teletext, and from £190 to £230 for Prestel. At present, a separate adaptor is needed for each of the two services.

Prestel, in addition, incurs a fee which shows up on the telephone bill. This may be no more than the cost of a local call while the set is in use, but there can be additional charges for access to some information. The caller is warned of these before he keys them in.

There are other physical and psychological influences at work. Few people place their television set where it is easily linked to the telephone, so in many cases a long cord is required.

Women and children tend to control the television switches in the average home. Fathers are unwilling to give their children use of what could be an expensive toy (each Prestel user has his own pass-code). But it would be a bold husband who insisted on calling up the racing results when his wife was watching Coronation Street or Wimbledon.

It is probably for these reasons that some 80 per cent of Prestel sets are installed in offices. Very likely many home sets will be owned by businessmen who cannot sleep without knowing whether Wall Street was panicking at the close of business.

However, the potential of Prestel far exceeds the capacity of television systems. Currently it can call up 200,000 pages of information, although many of them are highly specialised; they include case histories for lawyers and a few sentences about various trade unions, including my own.

If there were more sets installed, the number of organisations supplying data to Prestel, called information providers, would rapidly in-

crease from the 700 listed at the end of 1981. Organisations interested in contacting a broader audience would also be attracted to the service, even if they wished to do so.

Users can put information into the system as well as take it out. The ordinary numeric keyboard can convey limited ranges of messages to another subscriber with a full alphabetic keyboard detailed communications can be sent. In two or three years British Telecom expects to have Prestel 2 transmitting pictures of full colour photographic quality.

Already armchair shopping for a limited range of goods is a possibility for anyone equipped with a Prestel set and a credit card. Debenham's and W. H. Smith were among the first to develop this outlet. Goods are ordered by filling in a page form through the keypad and giving the credit card number. They are delivered to the registered address of the customer.

Home shopping could be the locomotive to get Prestel really moving in March, when the Gateway service is introduced in London, later to spread nationally. This will allow a receiver, at present limited to the system's own computer, to contact extensive computers anywhere in the country through the Packer Switched Service. British Telecom's public data network.

So, for example, it will be possible for customers to dial direct to a mail order firm's computer, or make airline and holiday reservations, having first checked that tickets are available (tourist agencies are already heavy users of Prestel). Gateway could also introduce banking transactions from the home.

Both share the handicap that transmissions are only available from the time broadcasting starts, for the day down to its close. Also the number of pages is limited, perhaps 400 to 500 between the two BBC channels on a typical day.

The BBC plans to ease this limitation by regionalising news, and items about weather, sport and entertainment. Oracle, which is owned jointly by all the commercial television companies, has already done this in Scotland.

Patrick O'Leary

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Big plastic spender still needs his wallet

Bankers today speak not of a cashless, chequeless world, but of the less-cash, less-cheque society. With hands on hearts, they say they want to shorten the queues at high street branches, which would benefit them as well as customers.

It is true that what is known as electronic funds transfer is growing, with money passing from one account to another without the use of paper to achieve it. Most people who use cheques have some experience of this; for example through credit transfer, principally in the payment of salaries, or through direct debit of standing orders for meeting bills.

Another technological spender is the plastic card which operates cash dispensers, automated teller machines, or on a small scale so far point-of-sale shopping. Credit cards can bunch several payments into one cheque, as well as reducing cash-carrying, but generate much paper work along the way.

Standing orders have received a set-back, because inflation means they need constant updating, almost as troublesome as old-fashioned billing. Direct debiting is still recovering from one or two well-publicized disasters in its early days. People are not yet fully reassured by fervent protestations that they will be notified of changes in the figures, and indemnified against mistakes.



Money on a rainy day.

This system is growing from the banks' corporate customers, insurance companies and building societies, and some local authorities, as well as secretaries trying to round up subscriptions. Bodies receiving large numbers of monthly or quarterly remittances appreciate a system where money flows after computer has spoken to computer.

Payment of salaries by credit transfer is another area expecting rapid progress. As a nation Britain is underbanked, perhaps only

computer, and distributed in bulk on fresh tapes to the appropriate banks. Limits can be set on individual items, or on totals, so that gross errors are challenged before payment.

In addition to processing tapes the centre expects in about a year's time to be able to take instructions by telecommunications. In such an advanced organization it is a relief to find staff saying that the quickest way to send 15 sacks of tapes daily from the City to Edgware is by van.

Before long banks will have a new instrument for passing money, under which the Bank of England and others will be connected directly to a central computer. This would extend the same-day clearance of cheques, from London to other parts of Britain. In time, it could mean less pressure for all the world's banks to retain an office, however, small, in the Square Mile.

Not everyone welcomes rapid transfer of money between accounts. Those institutions most unfortunate in urging people to pay small remittances by direct debit, prefer to pay their own larger bills by old-fashioned means.

This is partly a product of high interest rates. A cheque in the past can represent money in the bank or in the market, earning two or three days' interest. On a large scale this outweighs the cost of manual handling of an account.

While technology can save banks money, using less staff, in smaller premises, and giving scope for new services, it seems likely to bring problems. When every man can sit at home and check his balance, or transfer money in or out of a deposit account at the press of a button, he will soon learn to manipulate his balances to his own advantage. He might also take evasive action before slipping accidentally into the red and incurring charges. Inevitably, there will be increased demands for all banks to pay interest on current balances.

Most of these can handle requests for statements and cheques to be sent to the holder's home, as well as cash withdrawal within agreed limits. A few also take deposits. During most of the working day a customer can check his current balance.

All four main clearing banks, Lloyds, National Westminster, Midland, and Barclay's are installing such machines at various rates, and Trustee Savings Bank has a similar programme.

They can be placed inside branches to relieve pressure on counter staff as well as through-the-wall. In some cases customers can offer their cards at counter computers, tapping in the request for cash under the eye of a human teller. The service to the bank is that no cheque has to be processed.

Staff also use desk-top terminals to check accounts, work out currency conversions, and for similar tasks. Some have machines which print out receipts.

But bankers would really like to move away from operations which require a multiplicity of heavily-staffed branches. Already cash dispensers can be found in stores and on the premises of large employers of staff.

Point-of-sale schemes, in which the client presents his card at a suitably equipped store or petrol station, have been tried out in several countries. Through a direct link with the bank, his account is debited and the shopkeeper credited immediately, provided the funds are available.

Britain's big four are cooperating on a joint scheme, and hope that within a couple of years it will be possible to make payments without separate terminals being needed for each kind of card.

The next move could be self-service at home, the customer sending instructions through viewdata. One American banker has suggested that it would be economic to lease attachments for television sets at low rentals, eliminating many transactions which entail a visit to a branch. It would be possible for viewers to order cash to be delivered by registered mail, but this sounds like an idea invented by mail robbers.

Prospects are exciting, but in reality electronic payments in Britain are believed to account for less than 20 per cent of all non-cash transfers. The percentage is rising, although as total transactions are also increasing, the cheque mountain is not diminishing.

But it is overshadowed by cash deals, estimated to outnumber non-cash by eight or nine to one. It must be remembered that the value of non-cash payments is generally high; but even if the black economy disappears, it will be some time before wallets go out of fashion.

Since 1968 the London and Scottish clearing banks have sponsored the Inter-Bank Research Organization. A large part of its work is to study the application of information technology to financial transactions, and monitor its results. Having introduced the machine-readable cheque, banks are pressing for standardization of credit slips.

Electronic funds transfer on a massive scale is carried out by Bankers' Automatic Clearing Services, another product of the main banks.

Instead of vouchers, this receives tapes at its City office or Edgware computer centre from firms and other organizations. These contain instructions for payment of salaries, trade bills, and similar transactions.

At the BACS centre debits and credits are micro-filmed for record purposes, then they are stored in the

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Patrick O'Leary

Automatically your valet

Three or four years ago I watched a film produced by a leading electronics firm illustrating how computerized automation could transform life at home. All the gadgets seen, they assured me, were based on existing technology.

Two or three weeks ago I phoned the company and asked about the film. Their information retrieval system proved unequal to the task of finding anyone who could even remember its existence.

Perhaps we are just not ready for a world in which, by depressing a few buttons, you can draw the curtains, and check the outdoor temperature before leaping out of bed, run the bath water while scanning the electronic news, burn the toast and the coffee while soaking, and open the garage doors and start the car while taking leave of your wife, who can activate the self-propelled vacuum cleaner while watching breakfast TV.

We are all vaguely aware that micro-electronics have invaded our lives, at the office, when we travel, pay a bill, or go shopping. The airline check-in girl uses a computer to allocate seats. Taximeters flicker away in one line of computer numbers instead of an array of dials, and pub bills have gone digital.

But in the home new technology seems more acceptable if it appears in a familiar guise—improved television and stereo, organic fibre sensitive thermometers to save fuel, washing machines, cookers, dishwashers, and toasters which could use sensors to switch off when the job is done rather than at a present time. Even the electronic sewing machine is not obtrusively different from its predecessors. In the frightening jargon of the industry, these are "user friendly".

However, we are reluctant to put it all together, so that one computer console, programmed to a particular home's requirements, can control a battery of appliances. At present, the pressure for such simplification comes principally from a section of society least able to pay for it - those who are physically or mentally handicapped.

To a man or woman whose handicaps mean the limit of achievement, is to throw a simple switch on and off or press a sensitive keyboard. Information technology offers the potential for increased independence and a much fuller and more profitable life. Even the mentally impaired often respond more

quickly than through leaflets and brochures.

There is also some agonizing about what is best for people who are at present housebound. Developments in communications mean they can work as secretaries, or computer programmers, for example, from their own homes. But some would argue it is better to concentrate on devices to increase their mobility, and enable others to go out to work as others do.

□ □ □

Introduction of optical fibre telephone cables should expand the services piped into the home. The Department of Industry is sponsoring field tests later this year.

In a thousand homes in London, remote-control reading of electricity, gas and water meters. In this case the information will pass through electricity mains, and it will also be possible to monitor equipment to detect leaks, and interference with meters.

Burglar alarms have become highly automated, and some transmit pre-arranged messages to local police stations. It is possible for similar alarms to be activated over the telephone by miniature radios.

An elderly person alone in a house who suffers an accident rendering it impossible to reach the telephone could use a wristwatch-sized radio to call a pre-set number and alert a relative at work.

But radio transmitters are subject to problems relating to allocation of wavelengths, and this idea is still under official scrutiny.

The electronic clock and scoreboard have long been fixtures of sporting events. But the use of automatic line judging at Wimbledon last year opens up intriguing possibilities. Few soccer hooligans would enjoy abusing a robot referee.

Visual arts have not embraced the microprocessor to any marked extent. As for other organizations, it has proved useful in routine applications, booking seats and word-processing appeal letters. Lighting of stage sets has been partly-automated.

Instant video-taping means that a performance can be stored for study. The Institute of Contemporary Arts has started a library of tapes for viewing in its premises in the Mall.

Richard Sachs

The organisers of Information Technology Year (IT82 for short) are confident that its circular black and white logo—the i has a bright blue dot—will soon become at least as familiar as 1981's Year of the Disabled triangle.

They base their confidence on the cumulative impact of national and regional events that have been devised to promote the object of the exhibition, for instance, the office will provide the automatic choice.

Listed here is a selection from some of the year's major events and exhibitions at which there is likely to be an IT presence, either direct or as interpreted by the participants. Many of the exhibitions directed at the general public rather than trade will be visited by one of IT's mobile electronic office units—six 47ft long trailers displaying the latest in word processors, micro-computers and electronic equipment for telephone and facsimile transmission.

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The IT 82 calendar

January
Launch of IT trailers by the Prime Minister, NEC, Manchester (15). ■ Which Computer? Show, NEC, Birmingham (19-22). FAST (Forecasting and Assessment of Science and Technology) seminar, Selsdon Park, Croydon (25-29). Microplex, Glasgow City Chambers (27-29). BP Oil Computer Centre opens, Hemel Hempstead (28).

Seven contrasting environments—education, the home, at work (office or factory), banking, shopping and health—have been selected for special emphasis on each occasion, according to the character of the venue. At the Business Efficiency Exhibition, for instance, the office will provide the automatic choice.

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Measures Conference and Exhibition, Manchester (30-Apr 1).

April
Cheltenham Institute of Information Processing symposium and exhibition, Cheltenham (13-16). Local Area Network Distribution Office Systems exhibition and conference, Tara Hotel, London (14-16). NUT Conference, Scarborough (9-15). All Electrical Show, Barbican (19-21). NUFE Conference, Scarborough (21-27). Institute of Management Consultants Conference, Imperial College (21). Communications '82, NEC, Birmingham (20-23). Tickhill and District Lions Club Marathon, Yorks (25). Booksellers Association Conference, Scarborough (29-May 3). Science Museum IT Exhibition opens (till 24-26).

February
Business Equipment and Services Exhibition, Bristol (3-4) and Bournemouth (17-18). ■ Info '82, Barbican (9-12). National Computer Users Forum, Institute of Electrical Engineers (9). Computers and Technology in Education, Cardiff (8-9) and Swansons (10-11). Microsystems Exhibition, West Centre Hotel, London (24-26).

March
■ International Electrotechnical Exhibition (Electrex) NEC, Birmingham (1-5). Microshow, New Century Hall, Manchester (3-5). Business World Exhibition, Bristol (7-10). ■ Daily Mail Ideal Home Exhibition, Earls Court (9-Apr 3). Daily Telegraph Business to Business Exhibition, NEC, Birmingham (9-13). Oxfordshire Microfair Oxford (11-12). Home Video Show, Cunard International Hotel, London (11-15).

April
Business Equipment and Services Exhibition, Brighton (17-18). Royal Statistical Society Conference, York (22-26). Institute of Directors Conference, Royal Albert Hall, London (23). Electro-Optics/Laser International Exhibition (23-25). Thames Valley Business Show, Slough (23-26). Audio-Visual Exhibition, Wembley (29-Apr 1). Laboratory Equipment Exhibition, Edinburgh (30-31). Computer-aided Design Conference and Exhibition, Brighton (30-Apr 1). Lasers and Systems for Controls and

May
ICL Computer Users Conference, Bournemouth (5). Dudley College, Institute of Data Processing Management exhibition (10-15). Micro-City Exhibition, Bristol (10-13). 1982 Microshow, Wembley (11-13). Welsh Industries Fair, Cardiff (12-15). IT Race Day, Newmarket (14). Design Council Exhibition, Haymarket, London (16-June 26). Shropshire and West Midlands Agricultural Show, Shrewsbury (19-20). Devon County Show, Exeter (20-22). International Word Processing Exhibition, Wembley (25-26).

June
IT Exhibition, Plymouth Polytechnic (2-4). Impel '82, Doncaster (5-12). Times and Sunday Times Business to Business Exhibition, Earls Court (6-9). EETPU Conference, Scarborough (6-12). Computers in Medicine Conference, Institute of Electrical Engineers and British Medical Association (7-8). London Multi Media Market, Tower Hotel (13-17). ■ Business Efficiency Exhibition Earls Court (14-18). Electronic Publishing Conference, (14-19). Office Automation Show, Barbican (15-17). Business to Business Exhibition, Cardiff (23-25).

July
Careers Research Advisory Council Conference, Cambridge (6-9). Design Council Exhibition, Swansons (20-Aug 21). Royal National Eisteddfod, Swansons (31-Aug 1982).

August
Viewdata '82, Wembley (12-14). British Computer Society Jubilee Conference, Queen Elizabeth Hall, London (14). Computers on the Farm, National Agricultural Centre, Stoneleigh (20-21). International Motor Show, NEC, Birmingham (20-31). Wildscreen '82 Exhibition, Bristol (22-26).

September
Design Council Exhibition, Newcastle (mid-Nov to mid-Dec). ■ Compex Show, Olympia (16-19). Business Data Processing and Education Conference, Kelvin Hall, Glasgow (23-27).

October
British Cardiac Exhibition, Newcastle (6-7). Strategies for Software Development Conference (7-11). 6th International On-Line Information Exhibition, Cunard International Hotel (8-10). ■ IT 82 Year-end Conference, Barbican (8-9).

November
The IT stand will be at these exhibitions.

Calendar compiled from information supplied by the IT 82 project office.

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Information technology offers the potential for increased independence and a much fuller and more profitable life. Even the mentally impaired often respond more

to an impression of what is available in mechanical and financial aid. One of the Government initiatives this year is to consider setting up a database accessible through videodata television sets, which would provide up-to-date information much more

than the knowledge in touch with what is available in mechanical and financial aid.

At national level, there is to be an impressive modular exhibition stand, designed by the Col. Consisting of up to six hexagonal steel-framed bubbles, each occupying about 30 sq m, the stand will

be seen at eight national exhibitions, starting with the Which Computer? Show at the NEC, Birmingham, next week.

Seven contrasting environments—education, the home, at work (office or factory), banking, shopping and health—have been selected for special emphasis on each occasion, according to the character of the venue.

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Pearce Wright, Science Editor and Clive Cookson, technology correspondent, consider a future increasingly dependent on electronic information

Time for a fourth industrial sector

Conventional statistics kept by the governments of the industrial world divide the economy into three sectors of activity: agricultural, manufacturing and services. These figures show the shift over the years from the land to factories and more recently into service occupations by the workforce. In North America the proportion of people working in service jobs has risen to almost six out of 10 individuals.

An important part of this expanding group of workers are people involved in the production, storage, retrieval and distribution of information. According to Dr H. P. Gassman of the Organization for Economic Cooperation and Development (OECD) in Paris, those activities are acquiring a growing importance in the overall production of goods and services.

That view is supported by a new survey of *Science and Engineering Employment* by the National Science Foundation, in Washington, which shows that employment of computer graduates almost doubled between 1970 and 1980, while engineering employment generally increased only 25 per cent.

Against that background a group of experts from the OECD member countries are examining the connexion between information technology, productivity and employment. Their preliminary conclusion suggests that it is time for the industrial world to include a fourth sector to the breakdown of economic activities.

But these specialists, who meet as a working party on information, computer and communications policy, are refining a scheme for separating out the "information sector" from the traditional three across which it cuts.

There is an element of "information activity" in any occupation. The estimate of the size of the fourth economic sector defines information occupations as those which have the production, processing or distribution of information as their primary purpose. To these are added jobs which build and maintain the information systems that the first group use, such as telephone network fitters, computer operators and office equipment maintenance men.

Information producers are divided between four groups of workers. First, scientific and technical workers engaged in research and development. Next, information gathers who cover a variety of occupations mainly concerned with creating new sources of information. Then, there are market search and coordination specialists who provide, via search activities, market information to buyers, sellers or both. Fourth, there are those providing consultative services by applying an existing body of knowledge to the particular needs of a client.

Information processors cover the administrators and managers who have to know how to interpret and exploit the information given to them. Clerical and related jobs which call upon an employee to manipulate information and data in a form appropriate to an employer are also in this category.

Information distributors include teachers, publishers and librarians, and a variety of jobs in the news and entertainment media. Finally come the so-called infrastructure occupations of those who install, operate and repair the machines and technologies to support information activities.

Before long, Japanese motorists will be guided electronically to their destinations by the shortest and least congested routes. The driver puts a seven-digit code, corresponding to his destination, into the car's microprocessor before setting out on the journey.

A place in the High Street

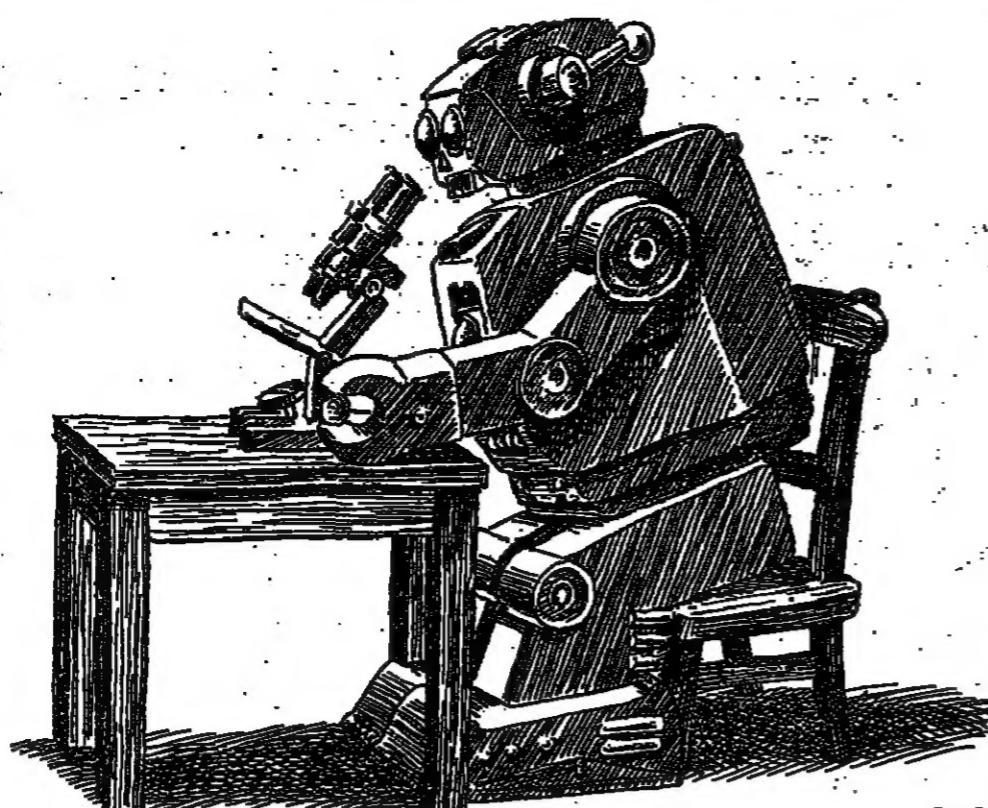
Information Technology is already beginning to take its place in the High Street. Shops are opening, equipped with word processors and high-speed printers, offering a fast service, mostly for local small businesses.

Precise figures for this new "cottage industry" use of information technology have not yet been compiled, but estimates suggest that some 200 operations from shop, or even front room, are functioning in the country. "But, from the number of inquiries I have had, the number is growing," said Mrs Andrea Wharton, a director of Keith Wharton Consultants, who produce a monthly International Word Processing Report.

"Machinery is easier to work now and prices are coming down, making it easier for, say, the married woman, or disabled person, to run a business from home."

Laura Tatham, a former journalist specializing in computers, for many years, opened Wordpro Word Processing Service, in a former tailor's shop in Essex Road, North London, six months ago.

Her clients range from a local cheese importer, merchant bank, solicitor, firm of international consultants, to some young people who have asked her to prepare and



Peter Tandy

Then, whenever he approaches an intersection, a visual display unit on the dashboard will direct him to turn right or left or continue straight ahead. It also tells him graphically which lane to use for entering or leaving the junction.

In addition to these route instructions, the system will flash important information about road conditions ahead, for example, "road works" or "pedestrian crossing".

The Comprehensive Automobile Traffic Control System, as it is called, has already been tested successfully in an experiment covering 30 sq km of Tokyo. The results are now being evaluated by a government-industry committee, with a view to installing the system in other urbanized areas of Japan.

The system depends on loop antennae installed under the road about 200 metres from each intersection and connected to a roadside transmitter/processor unit. As a car drives over an antenna, a two-way digital communications link is established automatically between the unit and the roadside unit. The unit picks up the vehicle's destination and identification codes and transmits the routing and driving information back to the roadside units and then, in the form of individual routing and driving guidance, to the cars passing by.

Before microcomputers were invented, scientists doing research in computer technology were casting an envious eye at molecular biologists unravelling the mechanism whereby the genetic code is stored and operated from the double helix of DNA in the nucleus of cells. In terms of information processing and storage, it makes even the latest microchips containing 250,000 transistors look like a dinosaur and slow.

But a small privately-owned research company, in Maryland, is experimenting with ideas for biological computers that exploit DNA coding. This intriguing development is described in the current issue of the magazine *Omni*. It is the idea, some may say fantasy, of Dr James McAlear who has assembled a small team of expert genetic engineers and biologists to devise a prototype biocomputer.

They hope to design computers that will assemble themselves by using the mechanism common to all

living things. These futuristic biocomputers would also be used as implants to treat blindness or deafness caused by damage to tissues.

The attraction of exploiting biological processes is understandable because the biologist is looking at conductive velocities of impulses, circuit switching speeds and packing densities of information that leave the electronic engineer far behind.

Dr McAlear is not the only pioneer in this field. But his work of applying biological principles to manufacture the ultimate in integrated circuits began with an idea for building a conventional chip out of protein. In animals, proteins organize a vast array of biochemicals and assemble them into living organisms. Dr McAlear believes that a mechanism capable of creating order from that incredible complexity could serve as a basis for organizing simple microcircuits.

The transmission of newspaper pages and pictures via radio links and communications satellites for printing simultaneously in several places is having a growing impact on publishing. Even a famous newspaper like the *New York Times* is expanding into a million circulation than a larger regional distributed publication. Its method of scanning completed newspaper pages with a laser system which transmits the image to receivers in other cities is very advanced technology.

International facsimile transmission by satellites is extending the *International Herald Tribune's* circulation to more corners of the globe; and the two great American weekly magazines, *Time* and *Newsweek*, exploit this channel in the competition to get their issues first into the hands of overseas readers.

Yet these developments are still based on the idea of producing pages of newsprint, to be squeezed by a delivery boy through the letter box or bought from the news stand. But even more advanced experiments in the United States show how to produce an individually printed newspaper in the home, containing only those pages selected by the reader.

In technical terms, the process is not particularly stunning. The factors putting a brake on the development are economic and social. The method works by having a printer attached to a television set that is providing a videotex service. The absence of a very cheap printer, probably working with reusable paper or plastic sheet, is the biggest restraint.

offset and computer phototypesetting make natural marriage.

The web-offset machines available 15 years ago to start the revival for regional newspapers were not adequate for the scale of national newspaper operations. But the relentless increase in newsprint costs, distribution and competition from broadcasting services had galvanized publishers in America to use phototypesetting, and to follow it with computer editing, even for large circulation titles. The past five years in particular has seen the arrival of video display terminals in newsrooms.

The technical details of various schemes are a bit academic, but the issues at stake between the traditional and electronic publisher are not. Both of them are now creating what is in effect a computer information warehouse. The first difference between printing and other manufacturing industries is that the raw materials held in the warehouse of the publisher are computerised data. Using that data to provide an electronic newspaper on demand by the customer will come as certainly as night follows day.

The second difference is that the products of the information warehouse are almost everlasting reusable. So the electronic publisher has potential for an incredible choice of services. The product at the end of the day may be a set of photographic transparencies or polymer plates. The photographic images can be sent by facsimile transmission to three or four places for printing by web-offset. At the same time, specialized services can be offered to subscribers who want to order their own category of newspaper information to be printed at home or work. Once that idea gains ground, the future is wide open.

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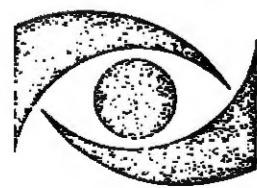
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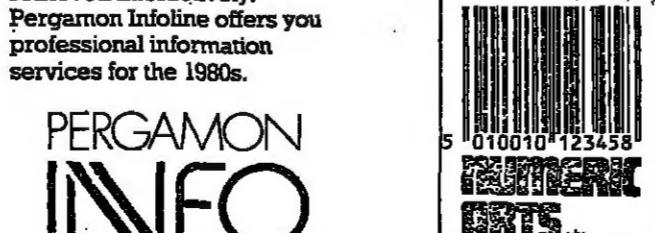
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